

#4

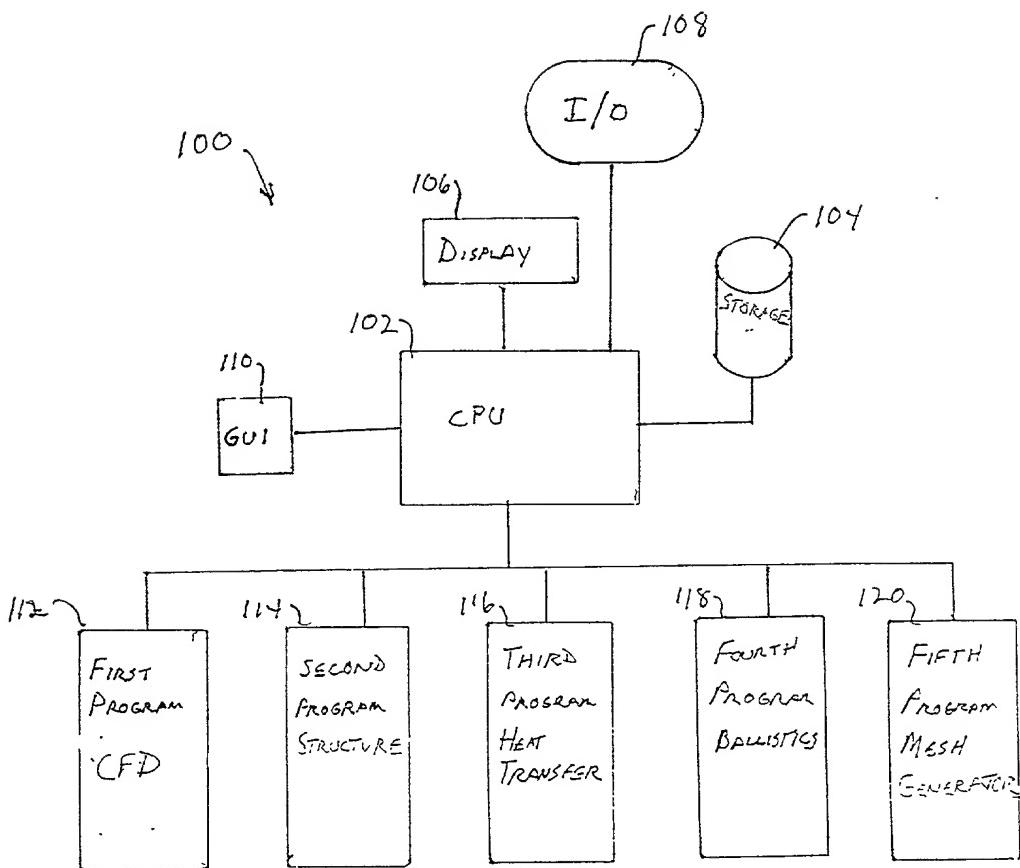


FIG. 1

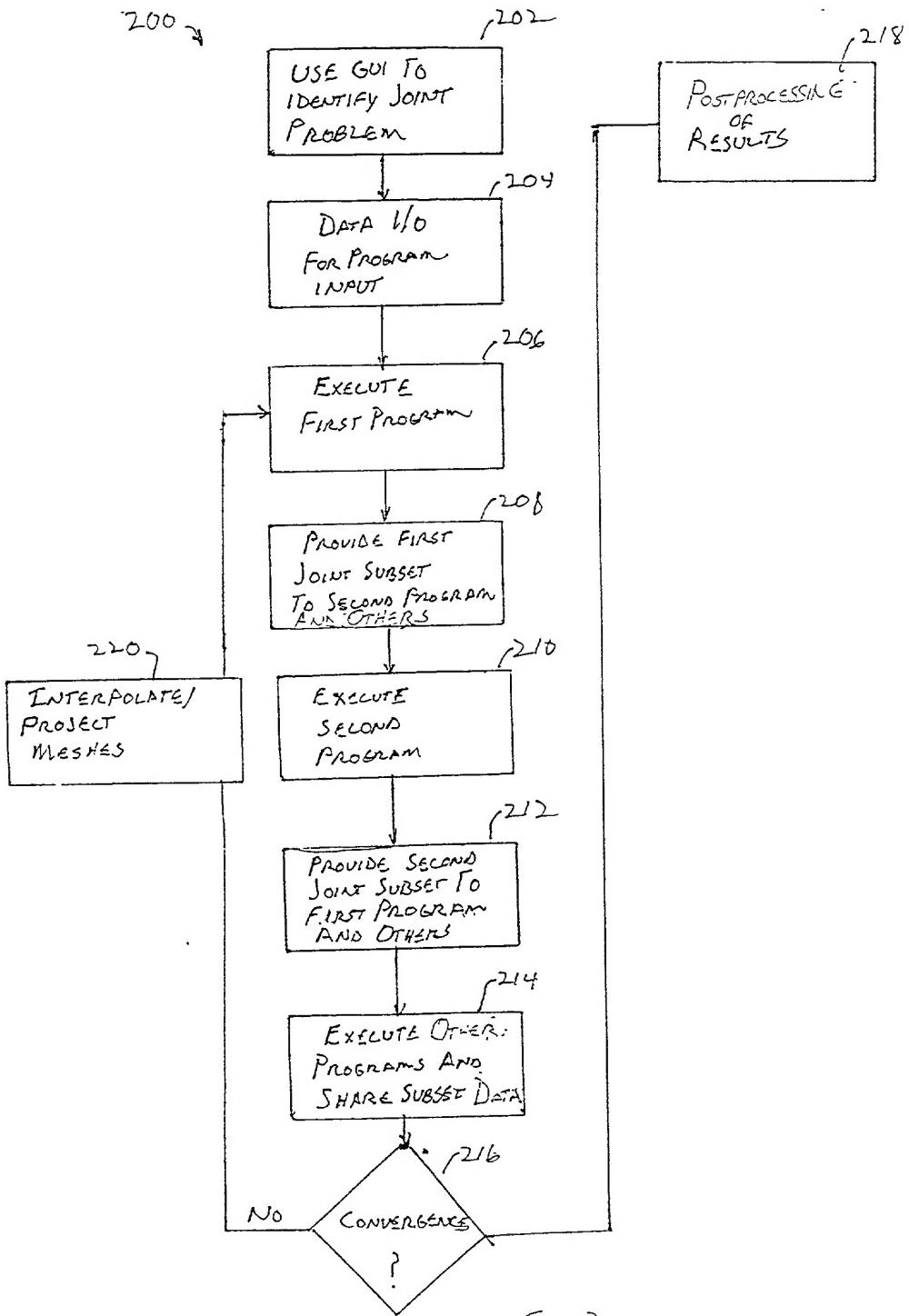


FIG. 2.-

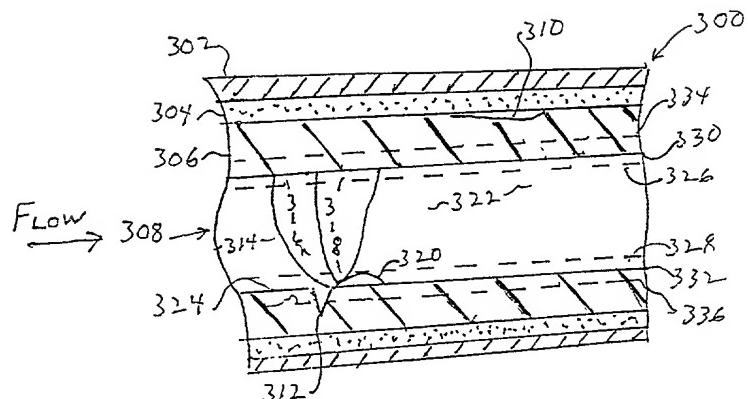


Fig. 3

A COMBINED DESIGN

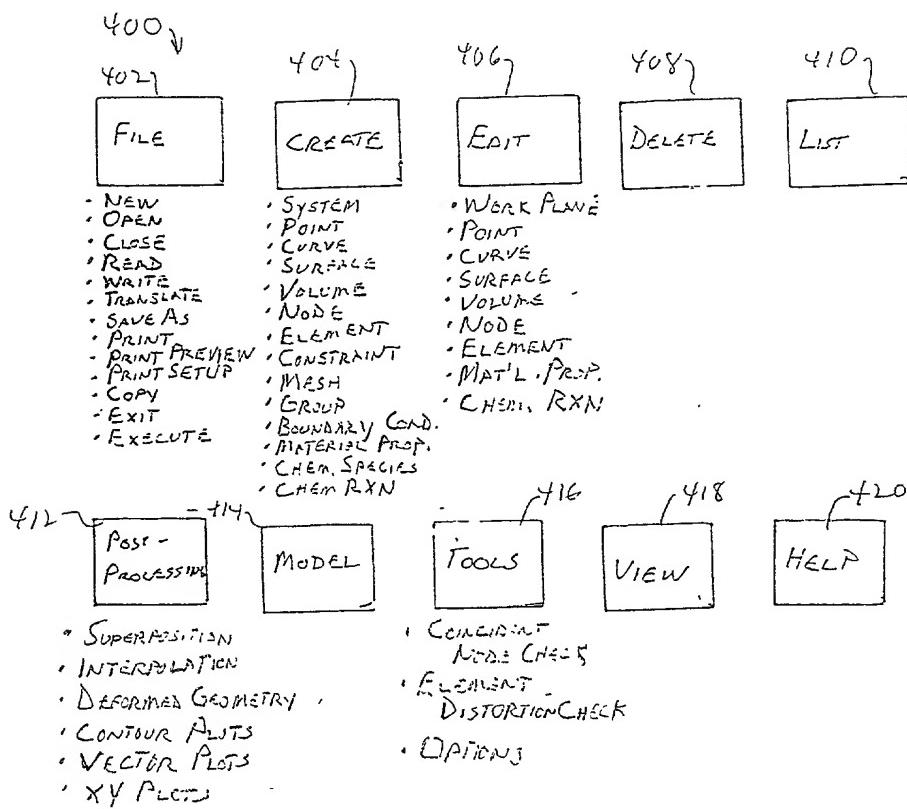


Fig. 4

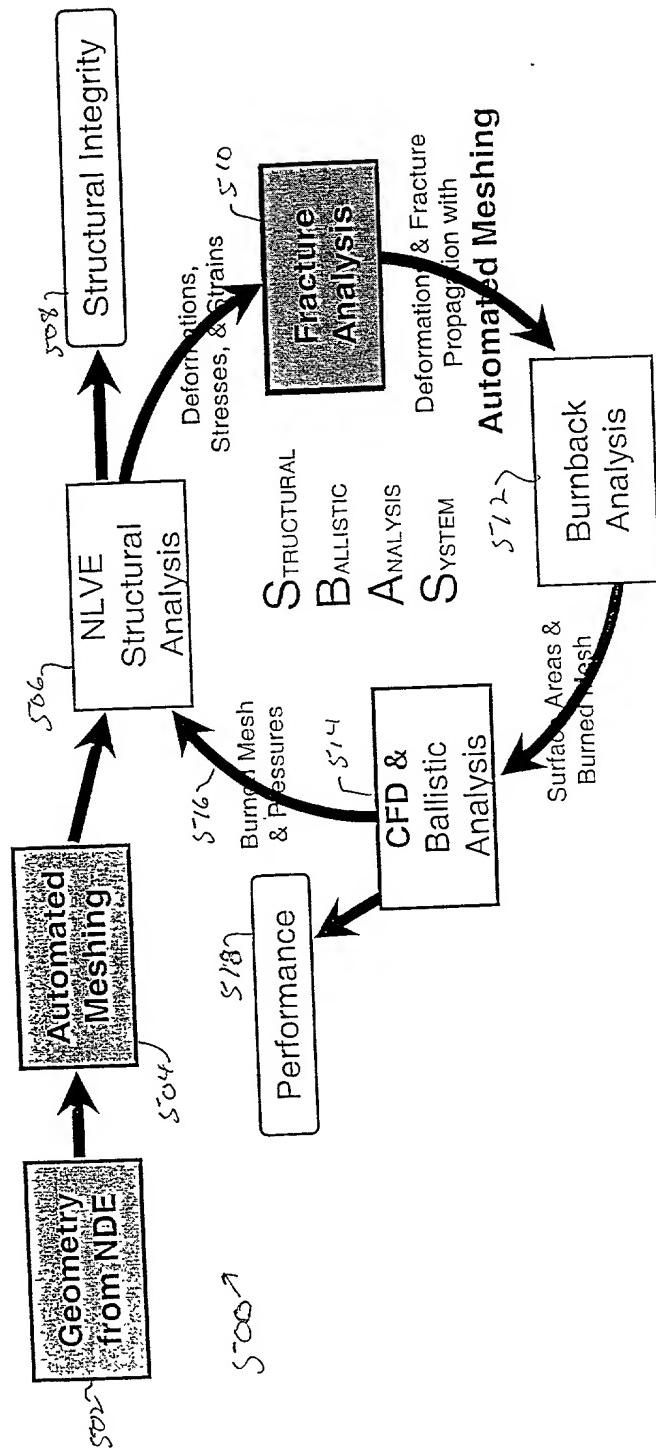


Fig. 5



## CERTIFICATE OF EXPRESS MAILING

Express Mail Label No. EV080009638US

Date of Deposit June 3, 2002

I hereby certify that these substitute drawing pages (5 figures, 4 pages) are being deposited with the U.S. Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated above and is addressed BOX MISSING PARTS, Assistant Commissioner for Patents, Washington, D.C. 20231.

A handwritten signature in cursive ink, reading "Annmarie B. Bopprey", is written over a single horizontal line.

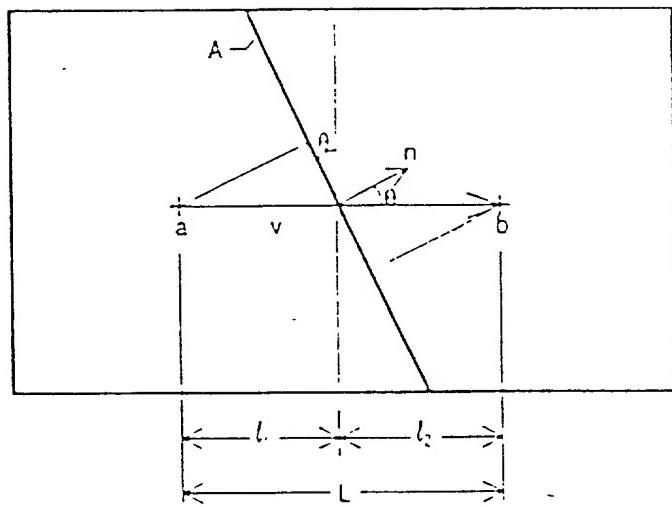
"RECEIVED" "U.S. PATENT & TRADEMARK OFFICE"

**Node Key:**

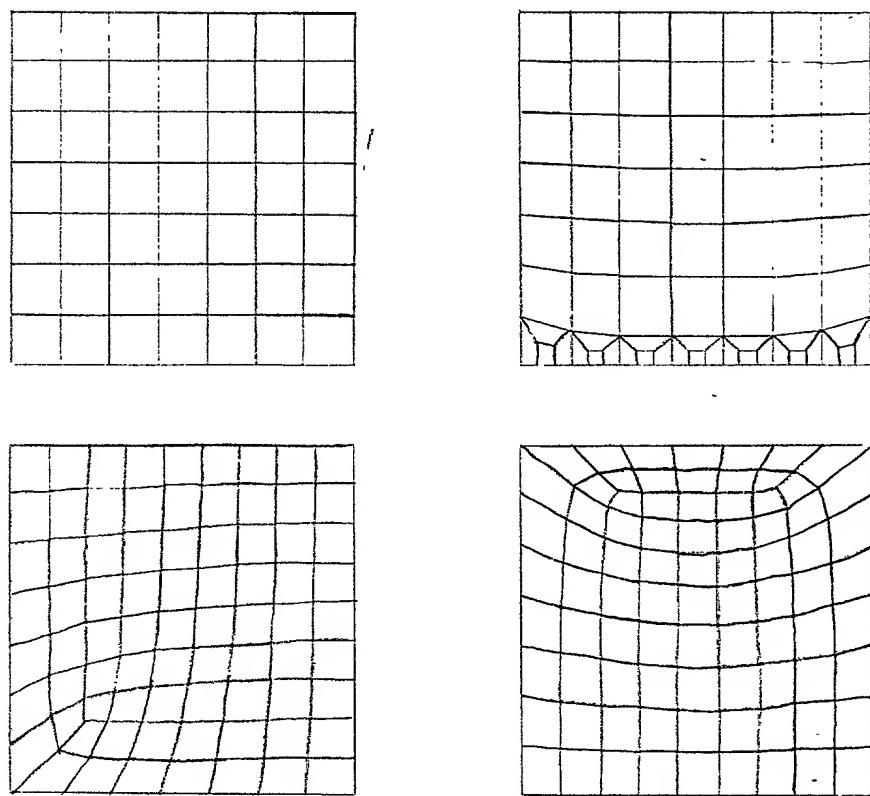
- Corner and Mid-side node (Required)
  - Mid-side node (Optional)
  - Face center node (Optional)
  - Element center node (Optional)

TYPE	LINEAR	PARABOLIC	VARIABLE
Point	$\times$ 0		
Line	$\times$ $\times$ 0      1	$\times$ $\rightarrow$ $\leftarrow$ 2	
Triangle Face 0=0,1, 3 Face 1=1,2, 4 Face 2=2,0, 5			
Quadrilateral Face 0=0,1, 4 Face 1=1,2, 5 Face 2=2,3, 6 Face 3=3,0, 7			
Tetrahedron Face 0=0,2,1, 6,5,4 Face 1=0,1,3, 4,8,7 Face 2=1,2,3, 5,9,8 Face 3=2,0,3, 6,7,9			
Wedge Face 0=0,2,1, 8,7,6 Face 1=3,4,5, 9,10,11 Face 2=0,1,4,3, 6,13,9,12,15 Face 3=1,2,5,4, 7,14,10,13,16 Face 4=2,0,3,5, 8,12,11,14,17			
Brick			

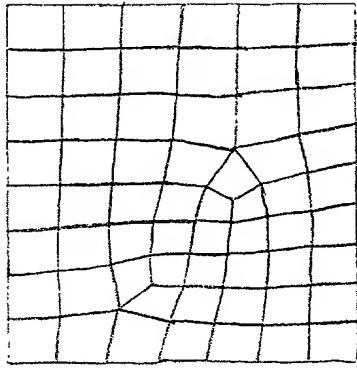
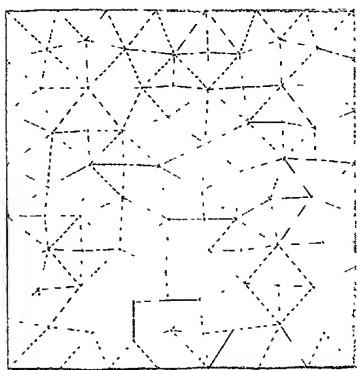
FIG. 6



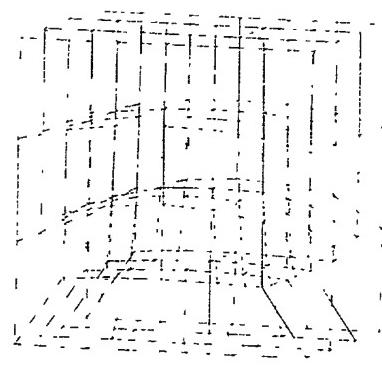
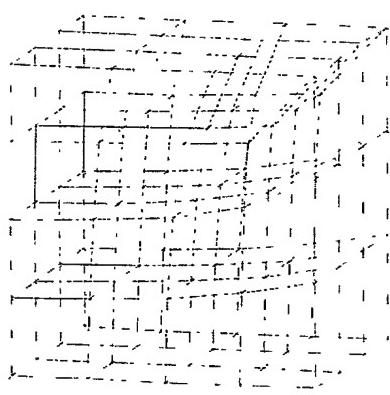
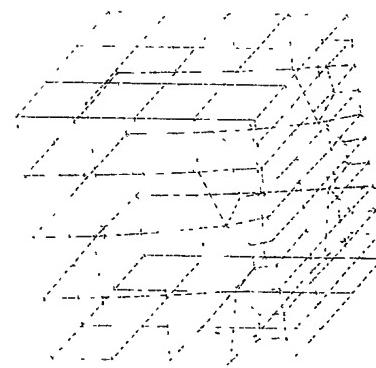
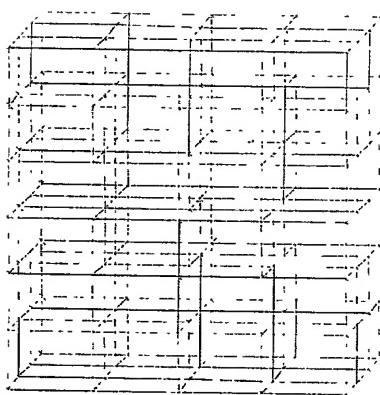
**FIG. 7**



**FIG. 8**



**FIG. 9**



**FIG. 10**

A GENEALOGY OF THE GRID

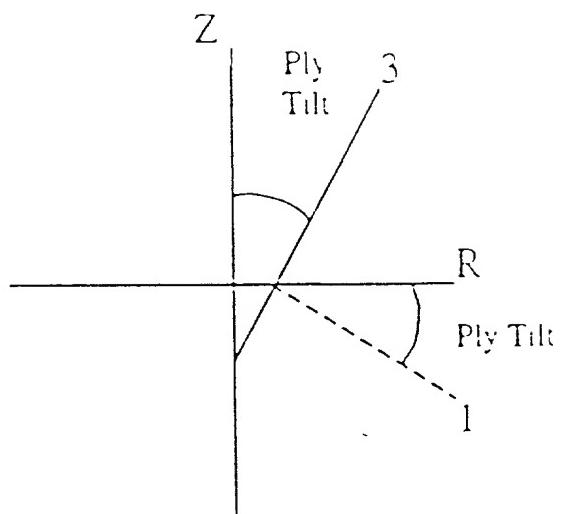


FIG. 11

Name	Size	Type	Modified
Ccm		File Folder	9/21/01 9:21 AM
Cdca		File Folder	9/21/01 9:21 AM
FEM Builder 1.2		File Folder	9/21/01 9:21 AM
Recess		File Folder	9/21/01 9:21 AM
_inst32i.exe	294KB	EX_ File	11/19/97 4:05 PM
_isdel.exe	8KB	Application	11/19/97 4:05 PM
_setup.dll	11KB	Application Extension	11/19/97 4:08 PM
_sys1.cab	187KB	Cabinet	9/21/01 8:29 AM
_user1.cab	50KB	Cabinet	9/21/01 8:29 AM
Data.tag	1KB	TAG File	9/21/01 8:29 AM
data1.cab	129KB	Cabinet	9/21/01 8:29 AM
lang.dat	5KB	Movie Clip	5/30/97 11:31 AM
layout.bin	1KB	BIN File	9/21/01 8:29 AM
Mscreate.dir	0KB	Macromedia Director...	9/26/00 12:45 PM
os.dat	1KB	Movie Clip	5/6/97 2:15 PM
py152.exe	4,911KB	Application	7/16/99 10:54 AM
setup.bmp	81KB	Bitmap Image	9/17/01 11:32 AM
Setup.exe	59KB	Application	11/19/97 4:09 PM
Setup.ini	1KB	Configuration Settings	9/21/01 8:29 AM
Setup.ins	58KB	Internet Communicati...	9/21/01 8:28 AM
setup.lid	1KB	LID File	9/21/01 8:29 AM
win32all-125.exe	2,953KB	Application	2/22/00 10:51 AM

FIG. 12

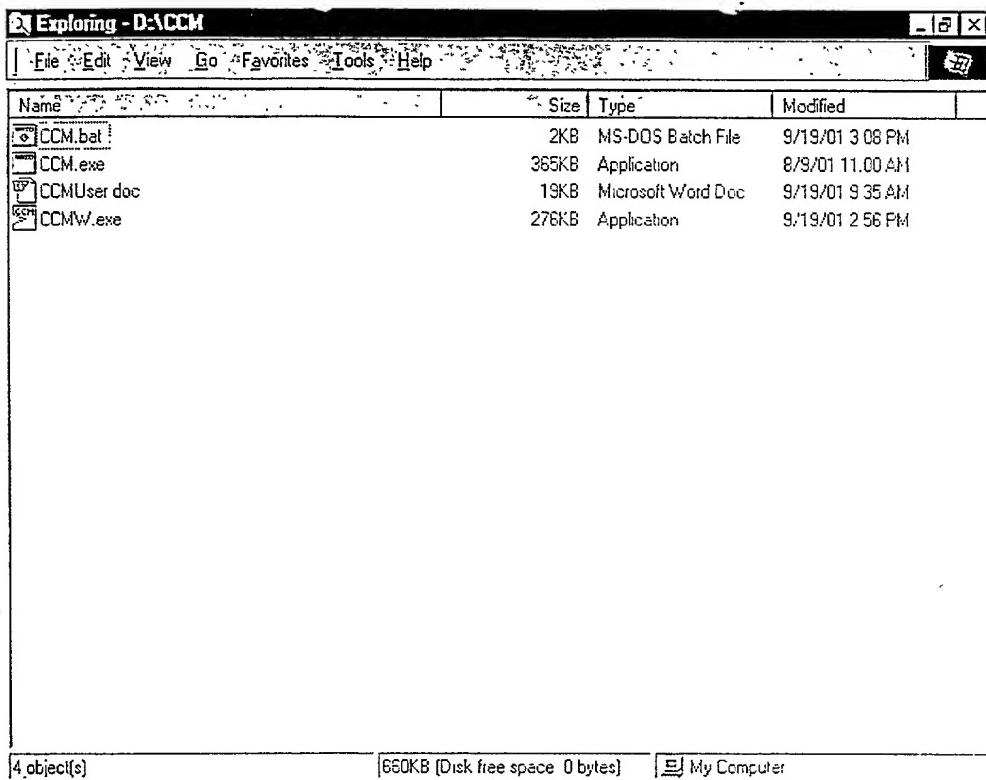


FIG. 13

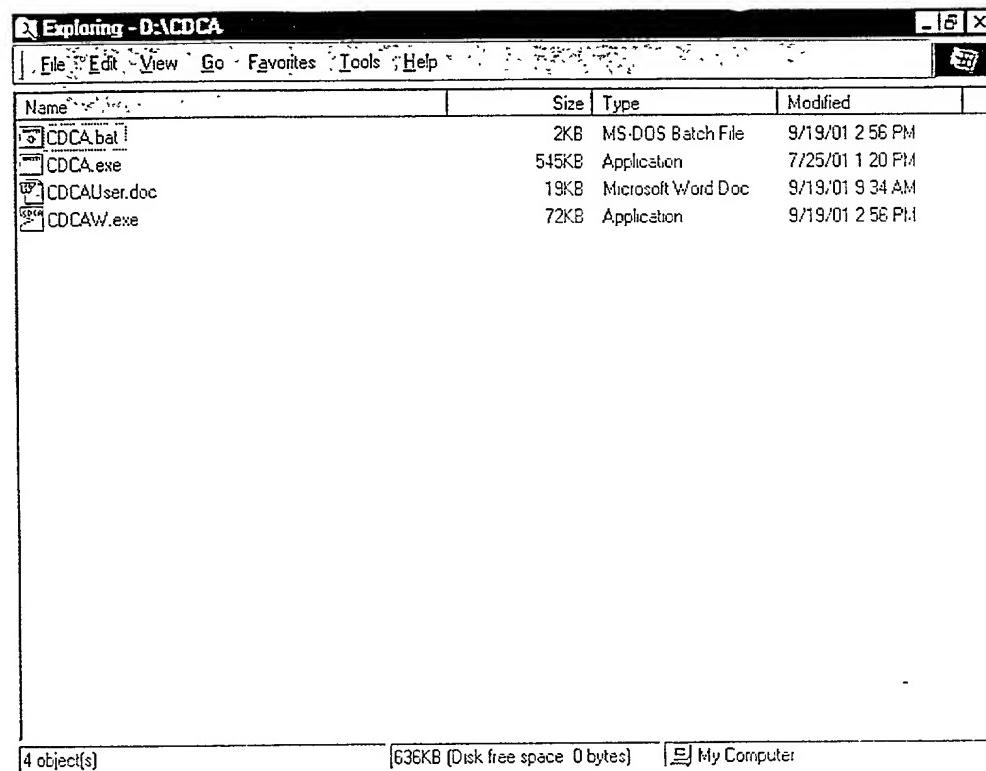


FIG. 14

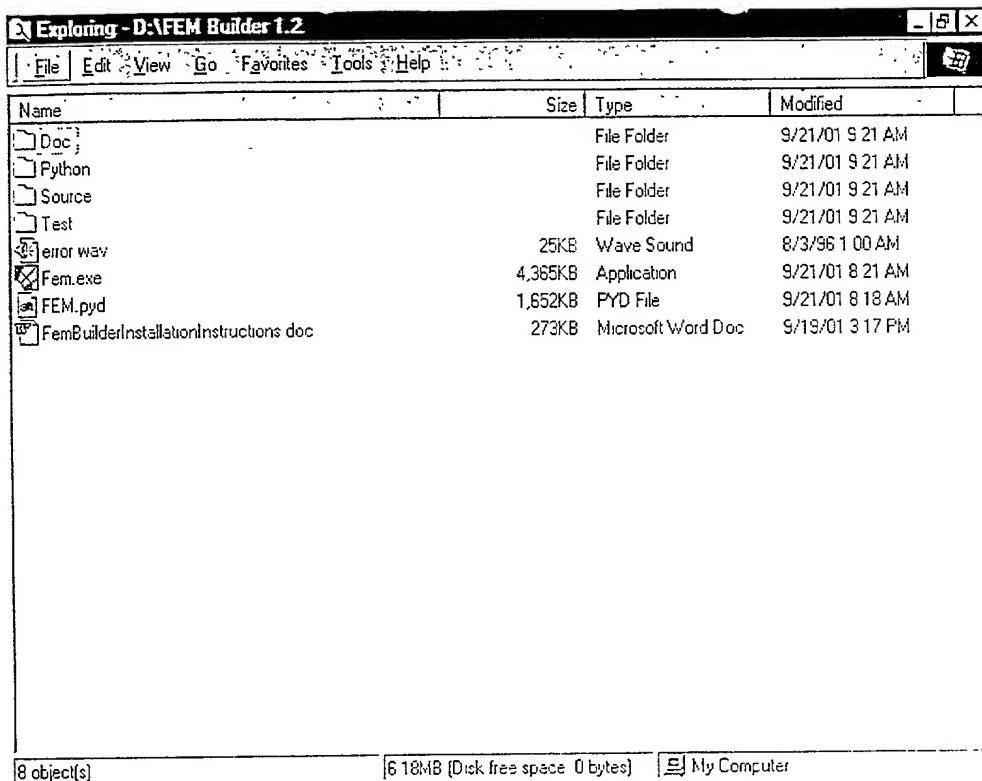


FIG. 15

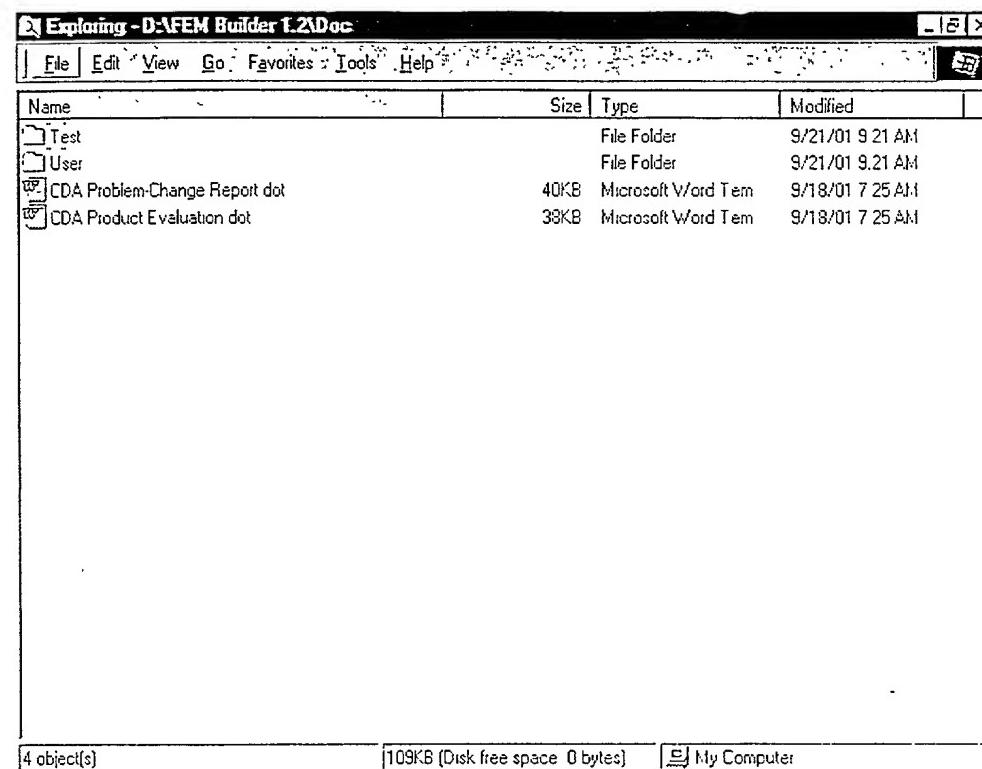


FIG. 16

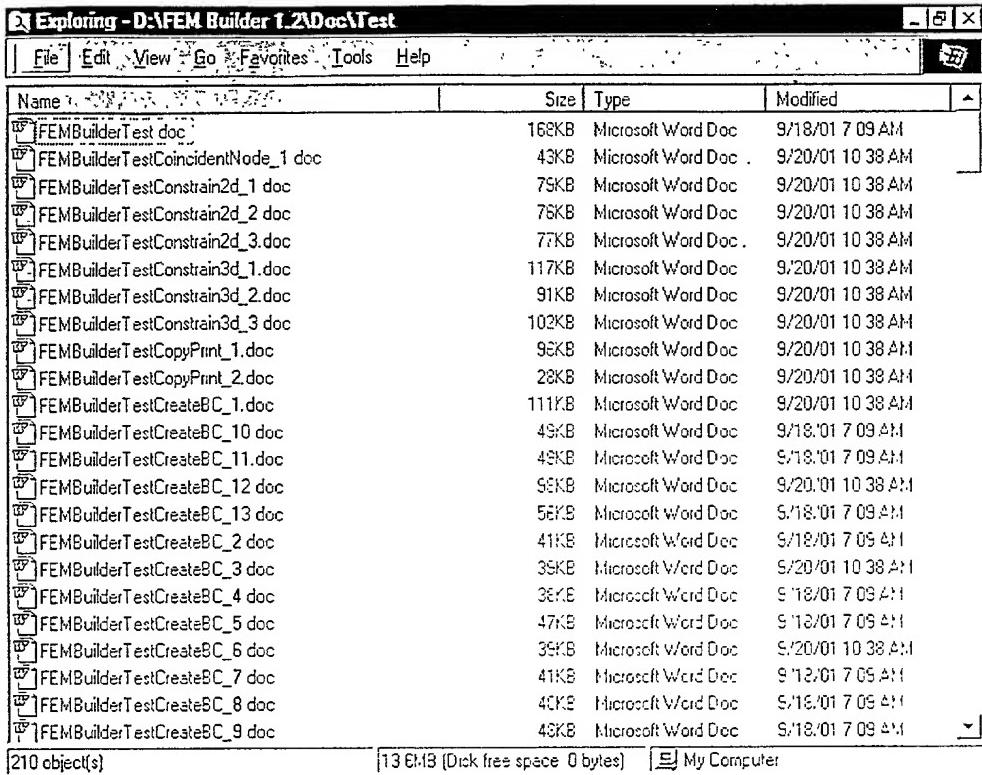


FIG. 17

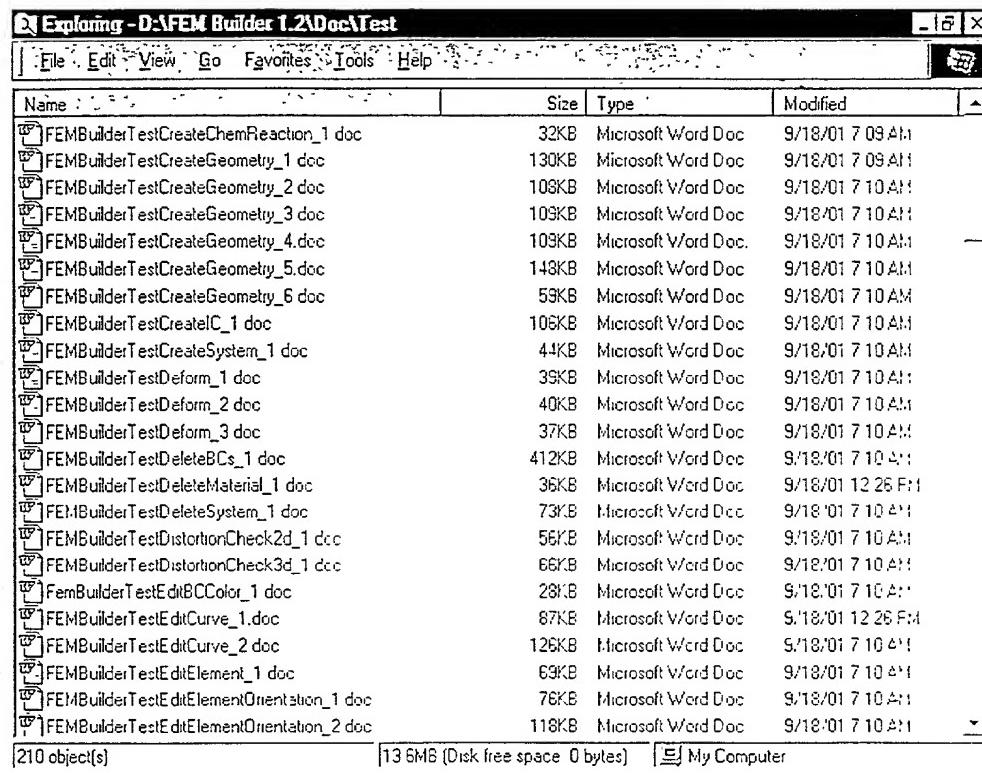


FIG. 18

A C D E F G H I J K L M N O P Q R S T

Name	Size	Type	Modified
FEMBuilderTestInsertFlaw2D_2.doc	69KB	Microsoft Word Doc.	9/18/01 7:10 AM
FEMBuilderTestInterfaceAbaqus_1.doc	30KB	Microsoft Word Doc...	9/18/01 7:10 AM
FEMBuilderTestInterfaceAbaqus_2.doc	28KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceAnsys_1.doc	73KB	Microsoft Word Doc.	9/18/01 7:10 AM
FEMBuilderTestInterfaceAnsys_2.doc	44KB	Microsoft Word Doc...	9/18/01 7:10 AM
FEMBuilderTestInterfaceAschar_1.doc	100KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceAschar_2.doc	51KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceFemDB_1.doc	28KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceFemDB_2.doc	27KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceFluent_1.doc	31KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceFluent_2.doc	98KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceGridGen_1.doc	28KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceGridGen_2.doc	36KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInterfaceIdeas_1.doc	44KB	Microsoft Word Doc	9/18/01 7:11 AM
FEMBuilderTestInterfaceIdeas_2.doc	25KB	Microsoft Word Doc	9/18/01 7:11 AM
FEMBuilderTestInterfaceMaterialProperty_1.doc	25KB	Microsoft Word Doc	9/18/01 7:11 AM
FEMBuilderTestInterfacePatan_1.doc	46KB	Microsoft Word Doc	9/18/01 7:11 AM
FEMBuilderTestInterfaceRdCCM_1.doc	30KB	Microsoft Word Doc	9/18/01 12:25 PM
FEMBuilderTestInterfaceRdCCM_2.doc	31KB	Microsoft Word Doc	9/18/01 12:26 PM
FEMBuilderTestInterfaceRdCDCA_1.doc	30KB	Microsoft Word Doc	9/18/01 12:26 PM
FEMBuilderTestInterfaceRdCDCA_2.doc	31KB	Microsoft Word Doc	9/18/01 12:26 PM
FEMBuilderTestInterfaceRdRecess_1-10.doc	36KB	Microsoft Word Doc	9/18/01 7:11 AM
FEMBuilderTestInterfaceRdSharp_1.doc	42KB	Microsoft Word Doc	9/18/01 12:26 PM

210 object(s) | 13.6MB (Disk free space: 0 bytes) | My Computer

FIG. 19

Name	Size	Type	Modified
FEMBuilderTestEditMeshAttribute_1.doc	37KB	Microsoft Word Doc.	9/18/01 7:10 AM
FEMBuilderTestEditNode_1.doc	68KB	Microsoft Word Doc.	9/18/01 7:10 AM
FEMBuilderTestEditWorkplane_1.doc	32KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestEditWorkplane_2.doc	42KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestExecuteAbaqus_1.doc	36KB	Microsoft Word Doc.	9/18/01 7:10 AM
FEMBuilderTestExecuteCCM_1.doc	32KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestExecuteCDCA_1.doc	33KB	Microsoft Word Doc.	9/18/01 7:10 AM
FEMBuilderTestExecuteFluent_1.doc	37KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestExecuteRecess_1.doc	33KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFemCreate_1.doc	80KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFemCreateGroup.doc	49KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFemDelete_1.doc	93KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFemDelete_2.doc	36KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFemEditColor_1.doc	91KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFracture_1.doc	105KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFracture_2.doc	65KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFracture_3.doc	71KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestFracture_4.doc	112KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestGeometryCreateGroup.doc	55KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestGeometryDelete_1.doc	154KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestGeometryEditColor_1.doc	175KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestHelp_1.doc	23KB	Microsoft Word Doc	9/18/01 7:10 AM
FEMBuilderTestInsertFlaw2D_1.doc	77KB	Microsoft Word Doc	9/18/01 7:10 AM

210 object(s) | 13.6MB (Disk free space: 0 bytes) | My Computer

FIG. 20

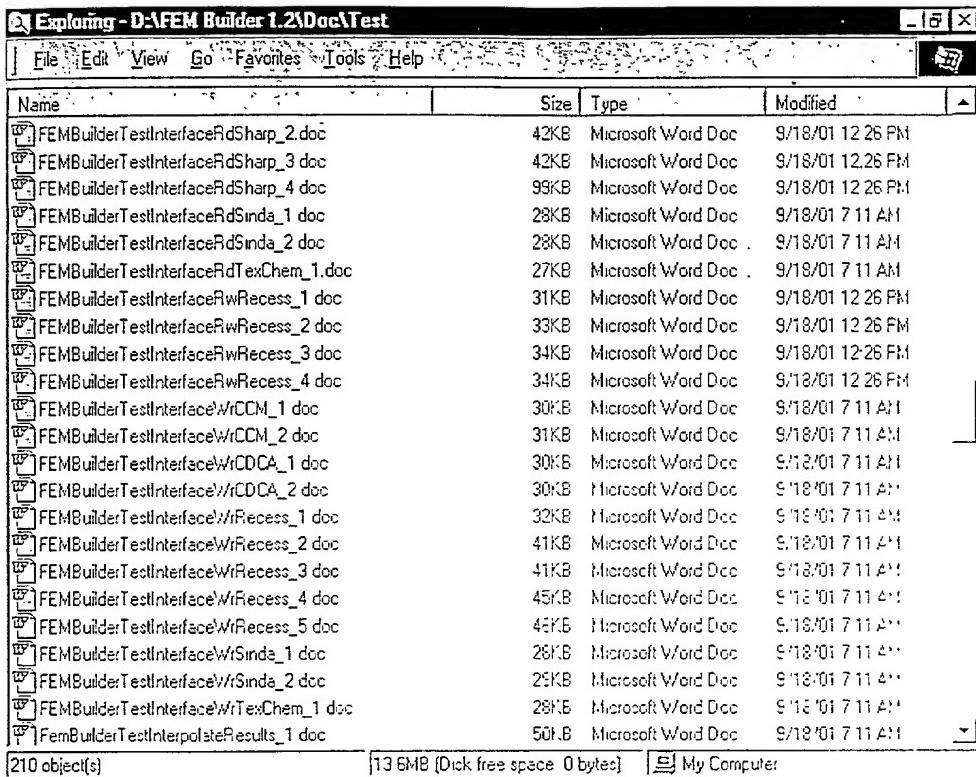


FIG. 21

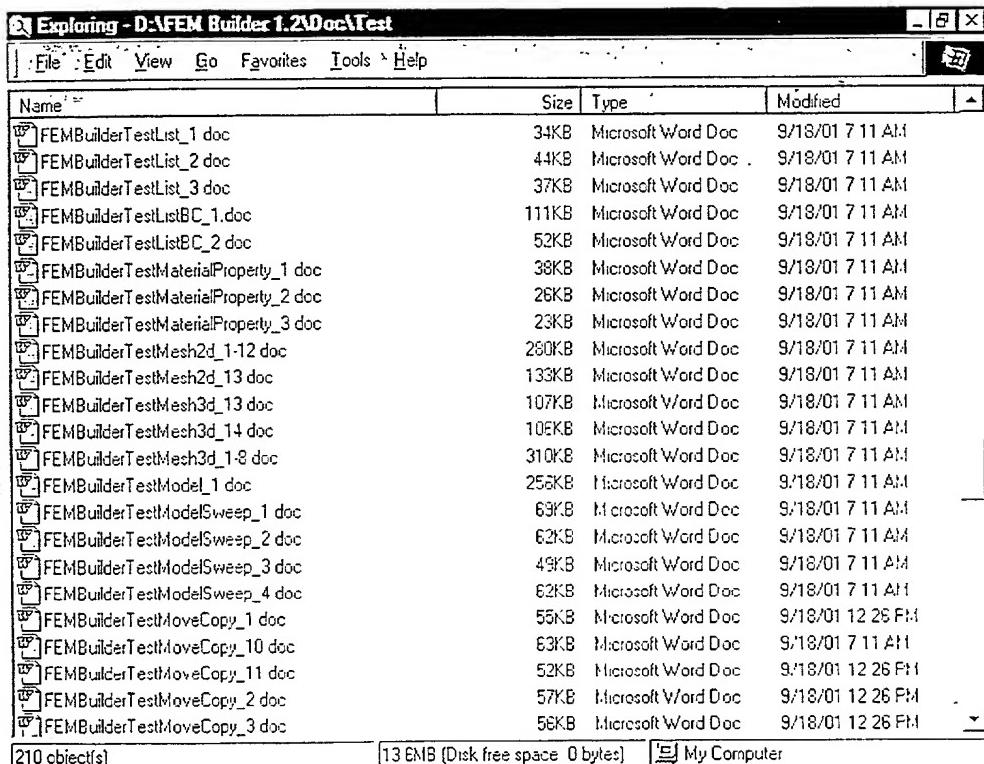


FIG. 22

J. G. D. B. E. R. I. S. T. E. R. I. S. T. E. R. I. S. T.

Name	Size	Type	Modified
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[F] FEMBuilderTestMoveCopy_5.doc	56KB	Microsoft Word Doc	9/18/01 12:26 PM
[F] FEMBuilderTestMoveCopy_6.doc	67KB	Microsoft Word Doc	9/18/01 12:26 PM
[F] FEMBuilderTestMoveCopy_7.doc	84KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestMoveCopy_8.doc	53KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestMoveCopy_9.doc	50KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FemBuilderTestPostAverageResult.doc	80KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestPostContour_1.doc	97KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestPostContour_2.doc	32KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestPostDeform.doc	41KB	Microsoft Word Doc	9/20/01 10:38 AM
[F] FEMBuilderTestPostResults_1.doc	45KB	Microsoft Word Doc	9/20/01 10:38 AM
[F] FEMBuilderTestPostResults_2.doc	33KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestPostResults_3.doc	23KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestPostResults_4.doc	25KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestPostResults_5.doc	25KB	Microsoft Word Doc	9/18/01 7:11 AM
[F] FEMBuilderTestPostVector.doc	32KB	Microsoft Word Doc	9/20/01 10:38 AM
[F] FemBuilderTestPostXYPlot_1.doc	34KB	Microsoft Word Doc	9/21/01 6:15 AM
[F] FemBuilderTestPostXYPlot_2.doc	27KB	Microsoft Word Doc	9/20/01 10:38 AM
[F] FemBuilderTestPostXYPlot_3.doc	26KB	Microsoft Word Doc	9/20/01 10:38 AM
[F] FemBuilderTestPostXYPlot_4.doc	62KB	Microsoft Word Doc	9/21/01 6:15 AM
[F] FemBuilderTestPostXYPlot_5.doc	46KB	Microsoft Word Doc	9/21/01 7:32 AM
[F] FemBuilderTestPostXYPlot_6.doc	133KB	Microsoft Word Doc	9/21/01 8:15 AM
[F] FemBuilderTestPostXYPlot_7.doc	32KB	Microsoft Word Doc	9/21/01 8:15 AM

[210 object(s)] [13.6MB (Disk free space: 0 bytes)] [My Computer]

FIG. 23

Name	Size	Type	Modified
[F] FemBuilderTestPostXYPlot_8.doc	143KB	Microsoft Word Doc	9/21/01 7:07 AM
[F] FemBuilderTestPostXYPlot_9.doc	102KB	Microsoft Word Doc	9/21/01 7:07 AM
[F] FEMBuilderTestRefineMesh_1.doc	164KB	Microsoft Word Doc	9/20/01 10:38 AM
[F] FEMBuilderTestRefineMesh_2.doc	81KB	Microsoft Word Doc	9/20/01 10:38 AM
[F] FEMBuilderTestRefineMesh_3.doc	86KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestRefineMesh_4.doc	83KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestRefineMesh_5.doc	64KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectAnalysisResults_1.doc	35KB	Microsoft Word Doc	9/20/01 10:38 AM
[F] FEMBuilderTestSelectCurve_1.doc	55KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectElement_1.doc	152KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectFace_1.doc	56KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectGroup_1.doc	27KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectMaterialProperties_1.doc	28KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectNode_1.doc	159KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectPoint_1.doc	51KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectSurface_1.doc	65KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectSystem_1.doc	28KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSelectVolume_1.doc	80KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSmooth2d_1.doc	35KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSmooth2d_2.doc	37KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSmooth2d_3.doc	42KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestSolverLess2d_1.doc	271KB	Microsoft Word Doc	9/18/01 7:12 AM
[F] FEMBuilderTestStandard4visym1.doc	28KB	Microsoft Word Doc	9/18/01 7:12 AM

[210 object(s)] [13.6MB (Disk free space: 0 bytes)] [My Computer]

FIG. 24

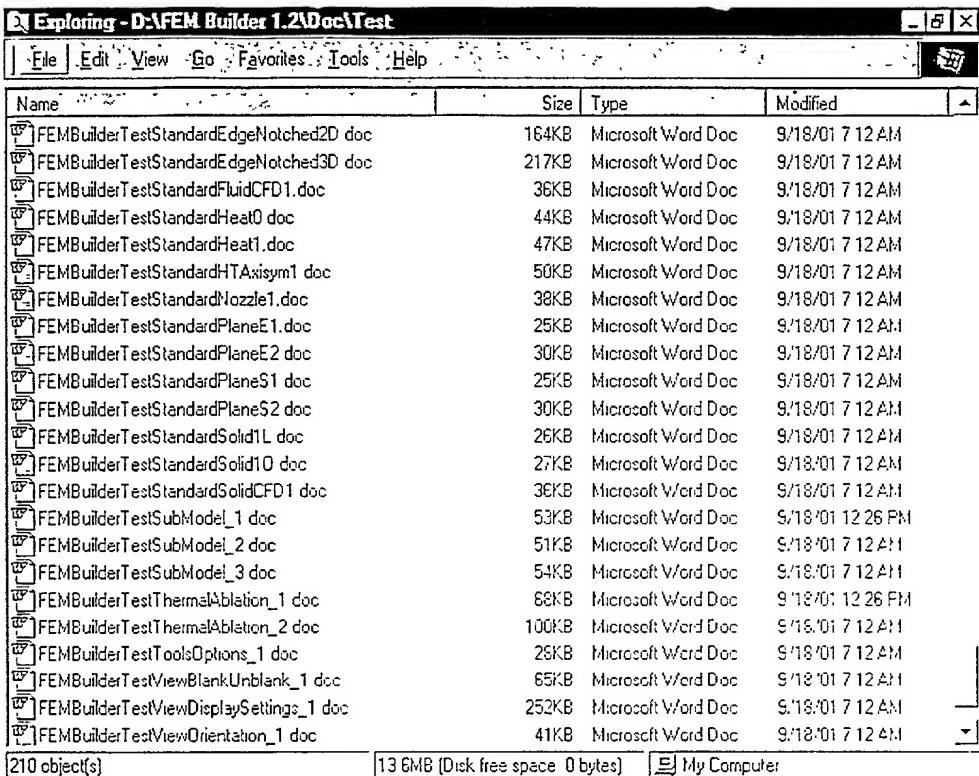


FIG. 25

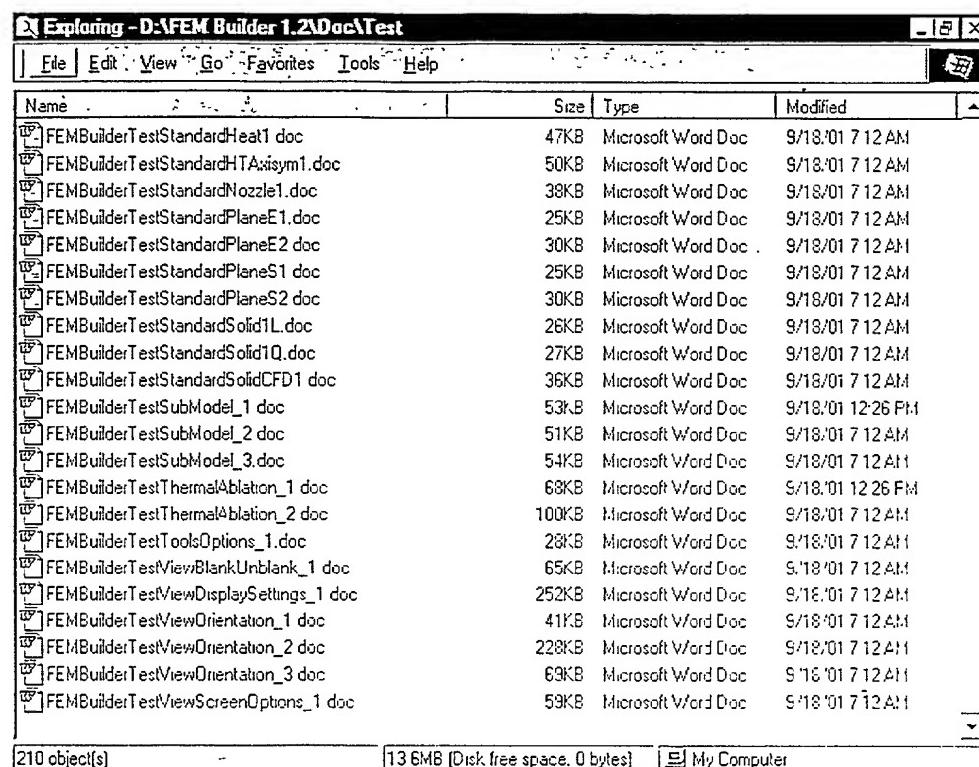


FIG. 26

[REDACTED]

Name	Size	Type	Modified
FEMBuilderPython.doc	410KB	Microsoft Word Doc	9/17/01 11:34 AM
FemBuilderSolvers.doc	23KB	Microsoft Word Doc	9/17/01 11:34 AM
FemBuilderSolversLess2D.doc	400KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderTraining.doc	597KB	Microsoft Word Doc	9/19/01 11:54 AM
FEMBuilderUser.doc	111KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserAbaqusInterface.doc	54KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserAnsysInterface.doc	51KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserAppendixAbaqusSupport.doc	111KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserAppendixAnsysSupport.doc	173KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserAppendixElementLibrary.doc	256KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserAppendixMaterialProperties.doc	40KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserAppendixSelection.doc	65KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserAscairInterface.doc	24KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserCDCA-CCMInterface.doc	39KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserChemicalProperties.doc	25KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserCreateFEM.doc	102KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserCreateGeometry.doc	38KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserDeleteFEM.doc	25KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserDeleteGeometry.doc	25KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserEditFEM.doc	49KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserEditGeometry.doc	32KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserExecution.doc	49KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserFluentInterface.doc	43KB	Microsoft Word Doc	9/17/01 11:34 AM

[44 object(s)] [3.98MB (Disk free space 0 bytes)] [My Computer]

**FIG. 27**

[REDACTED]

Name	Size	Type	Modified
FEMBuilderUserFluentInterface.doc	43KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserGridGenInterface.doc	23KB	Microsoft Word Doc...	9/17/01 11:34 AM
FEMBuilderUserIdeasMSInterface.doc	30KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserIntroduction.doc	43KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserListFEM.doc	25KB	Microsoft Word Doc...	9/17/01 11:34 AM
FEMBuilderUserListGeometry.doc	26KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserMaterialProperties.doc	29KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserMeshGeneration.doc	148KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserOverview.doc	41KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserPatranInterface.doc	64KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserPostFractureMechanics.doc	181KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserPostResultCalculation.doc	26KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserPostResultDisplay.doc	40KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserPostXYPlotParameters.doc	27KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserReadSharpInterface.doc	26KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserRecessInterface.doc	45KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserSimsInterface.doc	42KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserSimGenInterface.doc	23KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserTexChemInterface.doc	24KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserThermalAblation.doc	308KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserTools.doc	151KB	Microsoft Word Doc	9/17/01 11:34 AM
FEMBuilderUserView.doc	30KB	Microsoft Word Doc	9/17/01 11:34 AM

[44 object(s)] [3.98MB (Disk free space 0 bytes)] [My Computer]

**FIG. 28**

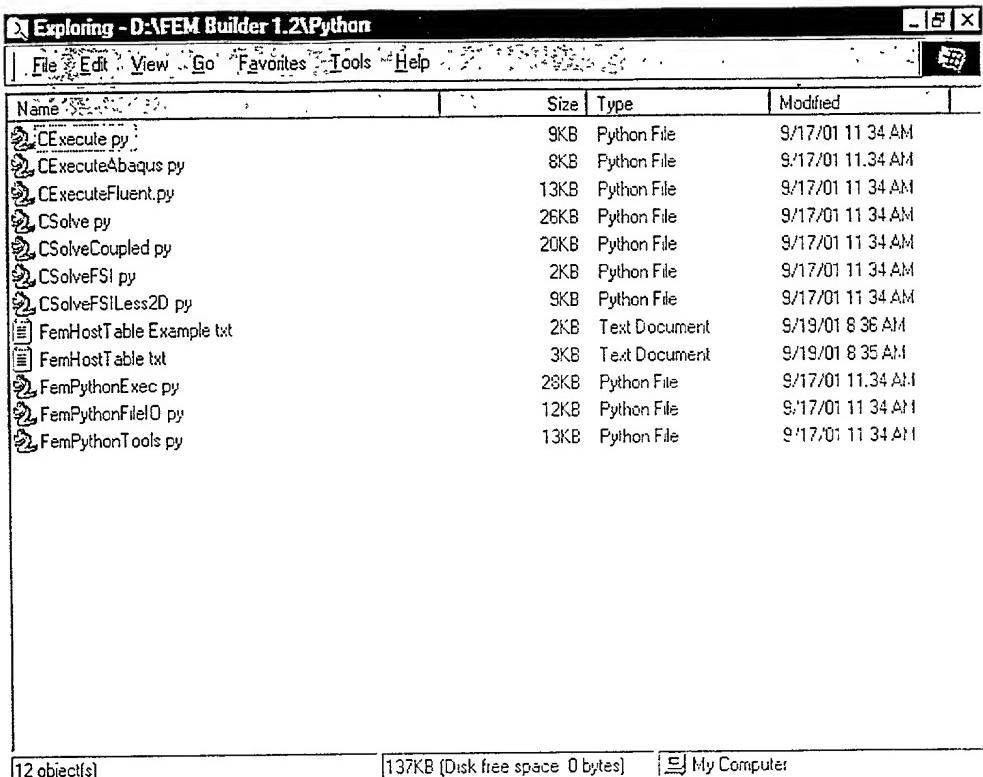


FIG. 29

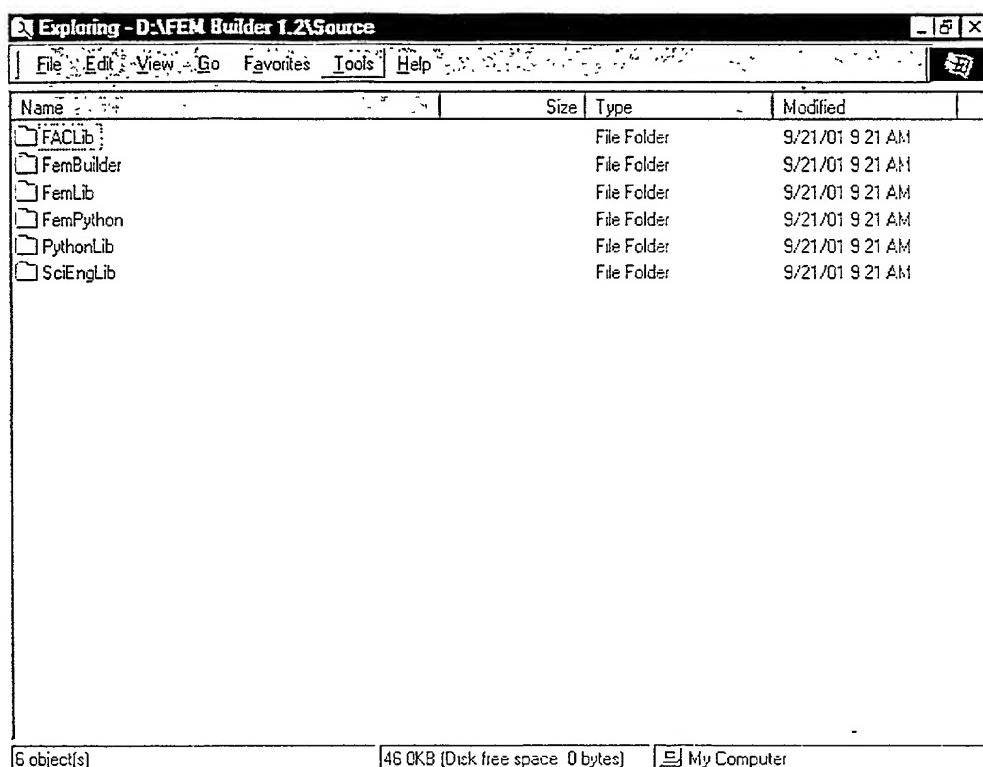


FIG. 30

D:\FEM Builder 1.2\Source\FACLib

Name	Size	Type	Modified
ArbArray.hpp	10KB	HPP File	9/17/01 11:30 AM
ArbBdySeg.hpp	6KB	HPP File	9/17/01 11:30 AM
ArbBSpline2D.cpp	24KB	CPP File	9/17/01 11:30 AM
ArbBSpline2D.hpp	8KB	HPP File	9/17/01 11:30 AM
ArbCoord2D.hpp	12KB	HPP File	9/17/01 11:30 AM
ArbFeasibleRegion.cpp	10KB	CPP File	9/17/01 11:30 AM
ArbFeasibleRegion.hpp	5KB	HPP File	9/17/01 11:30 AM
ArbGeom2DMixIn.cpp	10KB	CPP File	9/17/01 11:30 AM
ArbGeom2DMixIn.hpp	2KB	HPP File	9/17/01 11:30 AM
ArbHashTable.hpp	35KB	HPP File	9/17/01 11:30 AM
ArbHeap.hpp	16KB	HPP File	9/17/01 11:30 AM
ArbKDTree2D.cpp	16KB	CPP File	9/17/01 11:30 AM
ArbKDTree2D.hpp	9KB	HPP File	9/17/01 11:30 AM
ArbMsh.hpp	5KB	HPP File	9/17/01 11:30 AM
ArbMshCleanup.cpp	31KB	CPP File	9/17/01 11:30 AM
ArbMshCrackRegion2D.cpp	68KB	CPP File	9/17/01 11:30 AM
ArbMshCrackRegion2D.hpp	50KB	HPP File	9/17/01 11:30 AM
ArbMshEdgeList.cpp	86KB	CPP File	9/17/01 11:30 AM
ArbMshEdgeList.hpp	25KB	HPP File	9/17/01 11:30 AM
ArbMshQuad2D.cpp	179KB	CPP File	9/17/01 11:30 AM
ArbMshRegion2D.cpp	102KB	CPP File	9/17/01 11:30 AM
ArbMshRegion2D.hpp	62KB	HPP File	9/17/01 11:30 AM
ArbMshSmooth2D.cpp	51KB	CPP File	9/17/01 11:30 AM
ArbMshSmooth2D.hpp	18KB	HPP File	9/17/01 11:30 AM
ArbMshTopo2D.cpp	92KB	CPP File	9/17/01 11:30 AM
ArbMshTopo2D.hpp	54KB	HPP File	9/17/01 11:30 AM
ArbQuadTree.cpp	26KB	CPP File	9/17/01 11:30 AM
ArbQuadTree.hpp	14KB	HPP File	9/17/01 11:30 AM
ArbQueue.hpp	6KB	HPP File	9/17/01 11:30 AM
ArbRectangle.hpp	3KB	HPP File	9/17/01 11:30 AM
ArbRmshRegion2D.cpp	286KB	CPP File	9/17/01 11:30 AM
ArbRmshRegion2D.hpp	15KB	HPP File	9/17/01 11:30 AM
ArbSet.cpp	26KB	CPP File	9/17/01 11:30 AM
ArbSet.hpp	8KB	HPP File	9/17/01 11:30 AM
ArbSmallSet.hpp	4KB	HPP File	9/17/01 11:30 AM
FACLib.dsp	6KB	DSP File	9/17/01 11:30 AM
FACLib.dsw	1KB	DSW File	9/17/01 11:30 AM

[37 object(s)] [1.33MB (Disk free space 0 bytes)] [My Computer]

FIG. 31

D:\FEM Builder 1.2\Source\FACLib

Name	Size	Type	Modified
ArbMshCrackRegion2D.cpp	68KB	CPP File	9/17/01 11:30 AM
ArbMshCrackRegion2D.hpp	50KB	HPP File	9/17/01 11:30 AM
ArbMshEdgeList.cpp	86KB	CPP File	9/17/01 11:30 AM
ArbMshEdgeList.hpp	28KB	HPP File	9/17/01 11:30 AM
ArbMshQuad2D.cpp	179KB	CPP File	9/17/01 11:30 AM
ArbMshRegion2D.cpp	102KB	CPP File	9/17/01 11:30 AM
ArbMshRegion2D.hpp	62KB	HPP File	9/17/01 11:30 AM
ArbMshSmooth2D.cpp	51KB	CPP File	9/17/01 11:30 AM
ArbMshSmooth2D.hpp	18KB	HPP File	9/17/01 11:30 AM
ArbMshTopo2D.cpp	92KB	CPP File	9/17/01 11:30 AM
ArbMshTopo2D.hpp	54KB	HPP File	9/17/01 11:30 AM
ArbQuadTree.cpp	26KB	CPP File	9/17/01 11:30 AM
ArbQuadTree.hpp	14KB	HPP File	9/17/01 11:30 AM
ArbQueue.hpp	6KB	HPP File	9/17/01 11:30 AM
ArbRectangle.hpp	3KB	HPP File	9/17/01 11:30 AM
ArbRmshRegion2D.cpp	286KB	CPP File	9/17/01 11:30 AM
ArbRmshRegion2D.hpp	15KB	HPP File	9/17/01 11:30 AM
ArbSet.cpp	26KB	CPP File	9/17/01 11:30 AM
ArbSet.hpp	8KB	HPP File	9/17/01 11:30 AM
ArbSmallSet.hpp	4KB	HPP File	9/17/01 11:30 AM
FACLib.dsp	6KB	DSP File	9/17/01 11:30 AM
FACLib.dsw	1KB	DSW File	9/17/01 11:30 AM

[37 object(s)] [1.33MB (Disk free space 0 bytes)] [My Computer]

FIG. 32

FEM BUILDER

Name	Size	Type	Modified
res		File Folder	9/21/01 9 21 AM
CCoordinateInput.cpp	9KB	CPP File	9/17/01 11 31 AM
CCoordinateInput.h	2KB	H File	9/17/01 11 31 AM
CFemDBUtil.cpp	8KB	CPP File	9/17/01 11 31 AM
CFemDBUtil.h	1KB	H File	9/17/01 11 31 AM
CGridControl.cpp	13KB	CPP File	9/17/01 11 31 AM
CGridControl.h	4KB	H File	9/17/01 11 31 AM
CGridInput.cpp	15KB	CPP File	9/17/01 11 31 AM
CGridInput.h	6KB	H File	9/17/01 11 31 AM
CheckCoincidenceDlg.cpp	6KB	CPP File	9/17/01 11 31 AM
CheckCoincidenceDlg.h	4KB	H File	9/17/01 11 31 AM
CheckDistortionDlg.cpp	3KB	CPP File	9/17/01 11 31 AM
CheckDistortionDlg.h	2KB	H File	9/17/01 11 31 AM
ChildFrm.cpp	2KB	CPP File	9/17/01 11 31 AM
ChildFrm.h	2KB	H File	9/17/01 11 31 AM
CListFileMFC.cpp	3KB	CPP File	9/17/01 11 31 AM
CListFileMFC.h	2KB	H File	9/17/01 11 31 AM
ColorDlg.cpp	9KB	CPP File	9/17/01 11 31 AM
ColorDlg.h	3KB	H File	9/17/01 11 31 AM
CopyMatPropertyDlg.cpp	8KB	CPP File	9/17/01 11 31 AM
CopyMatPropertyDlg.h	3KB	H File	9/17/01 11 31 AM
CreateArcDlg.cpp	14KB	CPP File	9/17/01 11 31 AM
CreateArcDlg.h	3KB	H File	9/17/01 11 31 AM

[320 object(s)] [3.31MB (Disk free space 0 bytes)] [My Computer]

FIG. 33

Name	Size	Type	Modified
CreateBCDlg.h	11KB	H File	9/17/01 11 31 AM
CreateBCFluid.cpp	22KB	CPP File	9/17/01 11 31 AM
CreateBCFluid.h	9KB	H File	9/17/01 11 31 AM
CreateBCInterpolateDlg.cpp	11KB	CPP File	9/18/01 12 25 PM
CreateBCInterpolateDlg.h	4KB	H File	9/17/01 11 31 AM
CreateBCIsentropicDlg.cpp	6KB	CPP File	9/17/01 11 31 AM
CreateBCIsentropicDlg.h	3KB	H File	9/17/01 11 31 AM
CreateBCTabular.cpp	9KB	CPP File	9/17/01 11 31 AM
CreateBCTabular.h	3KB	H File	9/17/01 11 31 AM
CreateChemReactionDlg.cpp	5KB	CPP File	9/17/01 11 31 AM
CreateChemReactionDlg.h	2KB	H File	9/17/01 11 31 AM
CreateChemSpeciesDlg.cpp	3KB	CPP File	9/17/01 11 31 AM
CreateChemSpeciesDlg.h	2KB	H File	9/17/01 11 31 AM
CreateCircleDlg.cpp	10KB	CPP File	9/17/01 11 31 AM
CreateCircleDlg.h	3KB	H File	9/17/01 11 31 AM
CreateConstraintDlg.cpp	9KB	CPP File	9/17/01 11 31 AM
CreateConstraintDlg.h	4KB	H File	9/17/01 11 31 AM
CreateCurveOffsetDlg.cpp	8KB	CPP File	9/17/01 11 31 AM
CreateCurveOffsetDlg.h	3KB	H File	9/17/01 11 31 AM
CreateGroupDlg.cpp	9KB	CPP File	9/17/01 11 31 AM
CreateGroupDlg.h	3KB	H File	9/17/01 11 31 AM
CreateInitialConditionsDlg.cpp	22KB	CPP File	9/17/01 11 31 AM
CreateInitialConditionsDlg.h	8KB	H File	9/17/01 11 31 AM

[320 object(s)] [3.31MB (Disk free space 0 bytes)] [My Computer]

FIG. 34

TOOLBOX

Name	Size	Type	Modified
CreateLineDlg.h	3KB	H File	9/17/01 11 31 AM
CreateNodeDlg.cpp	2KB	CPP File	9/17/01 11 31 AM
CreateNodeDlg.h	2KB	H File	9/17/01 11 31 AM
CreatePointBetweenDlg.cpp	12KB	CPP File	9/17/01 11 31 AM
CreatePointBetweenDlg.h	3KB	H File	9/17/01 11 31 AM
CreatePointCoordinateDlg.cpp	6KB	CPP File	9/17/01 11 31 AM
CreatePointCoordinateDlg.h	3KB	H File	9/17/01 11 31 AM
CreatePointOnCurveDlg.cpp	15KB	CPP File	9/17/01 11 31 AM
CreatePointOnCurveDlg.h	3KB	H File	9/17/01 11 31 AM
CreateSplineDlg.cpp	18KB	CPP File	9/17/01 11 31 AM
CreateSplineDlg.h	3KB	H File	9/17/01 11 31 AM
CreateSurfaceBoundaryDlg.cpp	8KB	CPP File	9/17/01 11 31 AM
CreateSurfaceBoundaryDlg.h	2KB	H File	9/17/01 11 31 AM
CreateSurfaceExtrudeDlg.cpp	13KB	CPP File	9/17/01 11 31 AM
CreateSurfaceExtrudeDlg.h	3KB	H File	9/17/01 11 31 AM
CreateSurfaceRevolveDlg.cpp	12KB	CPP File	9/17/01 11 31 AM
CreateSurfaceRevolveDlg.h	3KB	H File	9/17/01 11 31 AM
CreateSurfaceSweepDlg.cpp	7KB	CPP File	9/17/01 11 31 AM
CreateSurfaceSweepDlg.h	3KB	H File	9/17/01 11 31 AM
CreateSystemDlg.cpp	12KB	CPP File	9/17/01 11 31 AM
CreateSystemDlg.h	3KB	H File	9/17/01 11 31 AM
CreateVolumeBoundaryDlg.cpp	6KB	CPP File	9/17/01 11 31 AM
CreateVolumeBoundaryDlg.h	2KB	H File	9/17/01 11 31 AM

[320 object(s)] [3.31MB (Disk free space 0 bytes)] [ My Computer]

**FIG. 35**

Name	Size	Type	Modified
CreateVolumeExtrudeDlg.cpp	11KB	CPP File	9/17/01 11 31 AM
CreateVolumeExtrudeDlg.h	3KB	H File	9/17/01 11 31 AM
CreateVolumeRevolveDlg.cpp	10KB	CPP File	9/17/01 11 31 AM
CreateVolumeRevolveDlg.h	3KB	H File	9/17/01 11 31 AM
CreateVolumeSweepDlg.cpp	2KB	CPP File	9/17/01 11 31 AM
CreateVolumeSweepDlg.h	2KB	H File	9/17/01 11 31 AM
CWizardPage.cpp	2KB	CPP File	9/17/01 11 31 AM
CWizardPage.h	2KB	H File	9/17/01 11 31 AM
CWizardSheet.cpp	10KB	CPP File	9/17/01 11 31 AM
CWizardSheet.h	2KB	H File	9/17/01 11 31 AM
DefineVectorDlg.cpp	14KB	CPP File	9/17/01 11 31 AM
DefineVectorDlg.h	3KB	H File	9/17/01 11 31 AM
DeformMeshDlg.cpp	4KB	CPP File	9/17/01 11 31 AM
DeformMeshDlg.h	21KB	H File	9/17/01 11 31 AM
DisplayOptionDlg.cpp	25KB	CPP File	9/17/01 3:00 PM
DisplayOptionDlg.h	6KB	H File	9/17/01 11 31 AM
EditBCCColorDlg.cpp	6KB	CPP File	9/17/01 11 31 AM
EditBCCColorDlg.h	3KB	H File	9/17/01 11 31 AM
EditColorPS.cpp	9KB	CPP File	9/17/01 11 31 AM
EditColorPS.h	3KB	H File	9/17/01 11 31 AM
EditCurveSplitDlg.cpp	11KB	CPP File	9/17/01 11 31 AM
EditCurveSplitDlg.h	3KB	H File	9/17/01 11 31 AM
EditCurveSubdivisionDlg.cpp	9KB	CPP File	9/17/01 11 31 AM

[320 object(s)] [3.31MB (Disk free space 0 bytes)] [ My Computer]

**FIG. 36**

**Exploring - D:\FEM Builder 1.2\Source\FemBuilder**

Name	Size	Type	Modified
EditCurveSubdivisionDlg.h	3KB	H File	9/17/01 11:31 AM
EditCurveTrimDlg.cpp	9KB	CPP File	9/17/01 11:31 AM
EditCurveTrimDlg.h	3KB	H File	9/17/01 11:31 AM
EditElementAttributesDlg.cpp	14KB	CPP File	9/17/01 11:31 AM
EditElementAttributesDlg.h	4KB	H File	9/17/01 11:31 AM
EditElementDlg.cpp	18KB	CPP File	9/17/01 11:31 AM
EditElementDlg.h	4KB	H File	9/17/01 11:31 AM
EditElementOrientDlg.cpp	48KB	CPP File	9/17/01 11:31 AM
EditElementOrientDlg.h	15KB	H File	9/17/01 11:31 AM
EditGravityDlg.cpp	2KB	CPP File	9/17/01 11:31 AM
EditGravityDlg.h	2KB	H File	9/17/01 11:31 AM
EditMeshAttributeDlg.cpp	6KB	CPP File	9/17/01 11:31 AM
EditMeshAttributeDlg.h	3KB	H File	9/17/01 11:31 AM
EditMultipleElementsDlg.cpp	2KB	CPP File	9/17/01 11:31 AM
EditMultipleElementsDlg.h	2KB	H File	9/17/01 11:31 AM
EditNodeDlg.cpp	11KB	CPP File	9/17/01 11:31 AM
EditNodeDlg.h	3KB	H File	9/17/01 11:31 AM
EditNodeDSystemDlg.cpp	6KB	CPP File	9/17/01 11:31 AM
EditNodeDSystemDlg.h	3KB	H File	9/17/01 11:31 AM
EditWorkPlaneDlg.cpp	10KB	CPP File	9/17/01 11:31 AM
EditWorkPlaneDlg.h	3KB	H File	9/17/01 11:31 AM
EditWorkPlaneMoveDlg.cpp	11KB	CPP File	9/17/01 11:31 AM
EditWorkPlaneMoveDlg.h	3KB	H File	9/17/01 11:31 AM

320 object(s) 3.31MB (Disk free space 0 bytes) My Computer

**FIG. 37**

**Exploring - D:\FEM Builder 1.2\Source\FemBuilder**

Name	Size	Type	Modified
error.wav	25KB	Wave Sound	8/3/96 1:00 AM
ExecuteAbaqusDlg.cpp	6KB	CPP File	9/17/01 11:31 AM
ExecuteAbaqusDlg.h	3KB	H File	9/17/01 11:31 AM
ExecuteFluentDlg.cpp	8KB	CPP File	9/17/01 11:31 AM
ExecuteFluentDlg.h	3KB	H File	9/17/01 11:31 AM
ExecuteParameterIPP.cpp	20KB	CPP File	9/17/01 11:31 AM
ExecuteParameterIPP.h	5KB	H File	9/17/01 11:31 AM
Fem.aps	621KB	APS File	9/20/01 10:36 AM
Fem.cpp	16KB	CPP File	9/20/01 11:07 AM
Fem.dsp	30KB	DSP File	9/17/01 11:31 AM
Fem.dsw	2KB	DSW File	9/17/01 11:31 AM
Fem.h	3KB	H File	9/20/01 10:37 AM
Fem.rc	353KB	RC File	9/20/01 10:36 AM
FemDoc.cpp	44KB	CPP File	9/17/01 11:31 AM
FemDoc.h	17KB	H File	9/17/01 11:31 AM
FemDocBlank.cpp	4KB	CPP File	9/17/01 11:31 AM
FemDocCreateBC.cpp	11KB	CPP File	9/17/01 11:31 AM
FemDocDelete.cpp	8KB	CPP File	9/17/01 11:31 AM
FemDocEditBC.cpp	2KB	CPP File	9/17/01 11:31 AM
FemDocFEM.cpp	3KB	CPP File	9/17/01 11:31 AM
FemDocGeometry.cpp	9KB	CPP File	9/17/01 11:31 AM
FemDocInterfaces.cpp	6KB	CPP File	9/17/01 11:31 AM
FemDocList.cpp	10KB	CPP File	9/17/01 11:31 AM

320 object(s) 3.31MB (Disk free space 0 bytes) My Computer

**FIG. 38**

A.00057520 - D:\FEM

Name	Size	Type	Modified
FemDocMatProp.cpp	6KB	CPP File	9/17/01 11 31 AM
FemDocOrient.cpp	1KB	CPP File	9/17/01 11 31 AM
FemDocPost.cpp	4KB	CPP File	9/17/01 11 31 AM
FemDocTools.cpp	4KB	CPP File	9/17/01 11 31 AM
FemUserMessages.h	1KB	H File	9/17/01 11 31 AM
FemView.cpp	52KB	CPP File	9/21/01 7 06 AM
FemView.h	11KB	H File	9/17/01 11 31 AM
FilterOptionsDlg.cpp	5KB	CPP File	9/17/01 11 31 AM
FilterOptionsDlg.h	2KB	H File	9/17/01 11 31 AM
FlowModelParameters.cpp	17KB	CPP File	9/17/01 11 31 AM
FlowModelParameters.h	5KB	H File	9/17/01 11 31 AM
FractureMechanicsDlg.cpp	4KB	CPP File	9/17/01 11 31 AM
FractureMechanicsDlg.h	2KB	H File	9/17/01 11 31 AM
GPropertySheetFun.cpp	3KB	CPP File	9/17/01 11 31 AM
GPropertySheetFun.h	1KB	H File	9/17/01 11 31 AM
Inset2DFlawDlg.cpp	15KB	CPP File	9/17/01 11 31 AM
Inset2DFlawDlg.h	5KB	H File	9/17/01 11 31 AM
Inset2DFlawEllipseDlg.cpp	8KB	CPP File	9/17/01 11 31 AM
Inset2DFlawEllipseDlg.h	2KB	H File	9/17/01 11 31 AM
Interface.cpp	41KB	CPP File	9/17/01 11 31 AM
Interface.h	3KB	H File	9/17/01 11 31 AM
InterpolateProjectionDlg.cpp	9KB	CPP File	9/17/01 11 31 AM
InterpolateProjectionDlg.h	3KB	H File	9/17/01 11 31 AM

[320 object(s)] [331MB Disk free space 0 bytes] [My Computer]

FIG. 39

Name	Size	Type	Modified
listFileDialog.cpp	5KB	CPP File	9/17/01 11 31 AM
listFileDialog.h	2KB	H File	9/17/01 11 31 AM
ListResultValuesDlg.cpp	7KB	CPP File	9/17/01 11 31 AM
ListResultValuesDlg.h	3KB	H File	9/17/01 11 31 AM
MainFrm.cpp	17KB	CPP File	9/20/01 10 37 AM
MainFrm.h	3KB	H File	9/17/01 11 31 AM
MaterialPropertyDlg.cpp	20KB	CPP File	9/17/01 11 31 AM
MaterialPropertyDlg.h	5KB	H File	9/17/01 11 31 AM
MeshDlg.cpp	42KB	CPP File	9/17/01 11 31 AM
MeshDlg.h	10KB	H File	9/17/01 11 31 AM
ModelFileNamePP.cpp	12KB	CPP File	9/17/01 11 31 AM
ModelFileNamePP.h	4KB	H File	9/17/01 11 31 AM
ModelInfoDlg.cpp	17KB	CPP File	9/17/01 11 31 AM
ModelInfoDlg.h	6KB	H File	9/17/01 11 31 AM
MoveCopyDlg.cpp	34KB	CPP File	9/17/01 11 31 AM
MoveCopyDlg.h	10KB	H File	9/17/01 11 31 AM
OptionsDlg.cpp	21KB	CPP File	9/18/01 12 25 PM
OptionsDlg.h	5KB	H File	9/17/01 11 31 AM
OrientViewDlg.cpp	6KB	CPP File	9/21/01 7 06 AM
OrientViewDlg.h	4KB	H File	9/17/01 11 31 AM
PostContourDlg.cpp	17KB	CPP File	9/17/01 11 31 AM
PostContourDlg.h	4KB	H File	9/17/01 11 31 AM
PostDeformedDlg.cpp	13KB	CPP File	9/17/01 11 31 AM

[320 object(s)] [331MB Disk free space 0 bytes] [My Computer]

FIG. 40

1 0 0 0 5 2 5 2 0 C E C 0 0 0

Name	Size	Type	Modified
PostDeformedDlg.h	3KB	H File	9/17/01 11:31 AM
PostDlg.cpp	33KB	CPP File	9/21/01 7:06 AM
PostDlg.h	11KB	H File	9/17/01 11:31 AM
PostVectorDlg.cpp	17KB	CPP File	9/17/01 11:31 AM
PostVectorDlg.h	4KB	H File	9/17/01 11:31 AM
PostView.cpp	15KB	CPP File	9/17/01 11:31 AM
PostView.h	4KB	H File	9/17/01 11:31 AM
PostXYAnalysisResultDlg.cpp	30KB	CPP File	9/17/01 11:31 AM
PostXYAnalysisResultDlg.h	7KB	H File	9/17/01 11:31 AM
PostXYPlotParmDlg.cpp	35KB	CPP File	9/17/01 11:31 AM
PostXYPlotParmDlg.h	9KB	H File	9/17/01 11:31 AM
PostXYPlotView.cpp	2KB	CPP File	9/17/01 11:31 AM
PostXYPlotView.h	2KB	H File	9/17/01 11:31 AM
PostXYTimeHistoryDlg.cpp	21KB	CPP File	9/17/01 11:31 AM
PostXYTimeHistoryDlg.h	4KB	H File	9/17/01 11:31 AM
ReadabaqusDlg.cpp	3KB	CPP File	9/17/01 11:31 AM
ReadabaqusDlg.h	2KB	H File	9/17/01 11:31 AM
ReadansysDlg.cpp	3KB	CPP File	9/17/01 11:31 AM
ReadansysDlg.h	2KB	H File	9/17/01 11:31 AM
ReadAscharDlg.cpp	4KB	CPP File	9/17/01 11:31 AM
ReadAscharDlg.h	3KB	H File	9/17/01 11:31 AM
ReadCCMDlg.cpp	4KB	CPP File	9/17/01 11:31 AM
ReadCCMDlg.h	3KB	H File	9/17/01 11:31 AM

320 object(s) 331MB (Disk free space 0 bytes) [ My Computer ]

FIG. 41

Name	Size	Type	Modified
ReadCDCADlg.cpp	4KB	CPP File	9/17/01 11:31 AM
ReadCDCADlg.h	3KB	H File	9/17/01 11:31 AM
ReadFluentDlg.cpp	3KB	CPP File	9/17/01 11:31 AM
ReadFluentDlg.h	2KB	H File	9/17/01 11:31 AM
ReadGridGenDlg.cpp	3KB	CPP File	9/17/01 11:31 AM
ReadGridGenDlg.h	2KB	H File	9/17/01 11:31 AM
ReadideasMSDlg.cpp	3KB	CPP File	9/17/01 11:31 AM
ReadideasMSDlg.h	2KB	H File	9/17/01 11:31 AM
ReadPatranDlg.cpp	8KB	CPP File	9/17/01 11:32 AM
ReadPatranDlg.h	3KB	H File	9/17/01 11:32 AM
ReadRecessDlg.cpp	3KB	CPP File	9/17/01 11:32 AM
ReadRecessDlg.h	2KB	H File	9/17/01 11:32 AM
ReadSharpDlg.cpp	3KB	CPP File	9/17/01 11:32 AM
ReadSharpDlg.h	2KB	H File	9/17/01 11:32 AM
ReadSindaDlg.cpp	3KB	CPP File	9/17/01 11:32 AM
ReadSindaDlg.h	2KB	H File	9/17/01 11:32 AM
ReadSinGenDlg.cpp	3KB	CPP File	9/17/01 11:32 AM
ReadSinGenDlg.h	2KB	H File	9/17/01 11:32 AM
ReadTexChem.cpp	3KB	CFF File	9/17/01 11:32 AM
ReadTexChem.h	2KB	H File	9/17/01 11:32 AM
RefineMeshAdaptiveDlg.cpp	19KB	CPP File	9/20/01 10:38 AM
RefineMeshAdaptiveDlg.h	5KB	H File	9/17/01 11:32 AM
RefineMeshSpecifiedDlg.cpp	8KB	CPP File	9/17/01 11:32 AM

320 object(s) 331MB (Disk free space 0 bytes) [ My Computer ]

FIG. 42

# C:\FEM\Source\FemBuilder

**Exploring - D:\FEM\Builder 1.2\Source\FemBuilder**

File Edit View Go Favorites Tools Help

Name	Size	Type	Modified
RefineMeshSpecifiedDlg.h	3KB	H File	9/17/01 11:32 AM
resource.fdf	5KB	FD File	9/20/01 10:36 AM
resource.h	39KB	H File	9/20/01 10:36 AM
ResultInterpolationDlg.cpp	13KB	CPP File	9/17/01 11:32 AM
ResultInterpolationDlg.h	5KB	H File	9/17/01 11:32 AM
ResultSuperpositionDlg.cpp	6KB	CPP File	9/17/01 11:32 AM
ResultSuperpositionDlg.h	3KB	H File	9/17/01 11:32 AM
SaveViewOrientationDlg.cpp	2KB	CPP File	9/17/01 11:32 AM
SaveViewOrientationDlg.h	2KB	H File	9/17/01 11:32 AM
SelectBCDlg.cpp	9KB	CPP File	9/17/01 11:32 AM
SelectBCDlg.h	3KB	H File	9/17/01 11:32 AM
SelectBCSetsDlg.cpp	3KB	CPP File	9/17/01 11:32 AM
SelectBCSetsDlg.h	2KB	H File	9/17/01 11:32 AM
SelectCurveDlg.cpp	9KB	CPP File	9/17/01 11:32 AM
SelectCurveDlg.h	3KB	H File	9/17/01 11:32 AM
SelectDlg.cpp	9KB	CPP File	9/17/01 11:32 AM
SelectDlg.h	5KB	H File	9/17/01 11:32 AM
SelectElementDlg.cpp	13KB	CPP File	9/17/01 11:32 AM
SelectElementDlg.h	3KB	H File	9/17/01 11:32 AM
SelectFaceDlg.cpp	8KB	CPP File	9/17/01 11:32 AM
SelectFaceDlg.h	2KB	H File	9/17/01 11:32 AM
SelectGroupDlg.cpp	8KB	CPP File	9/17/01 11:32 AM
SelectGroupDlg.h	3KB	H File	9/17/01 11:32 AM

[320 object(s)] [31MB (Disk free space 0 bytes)] [My Computer]

**FIG. 43**

# C:\FEM\Source\FemBuilder

**Exploring - D:\FEM\Builder 1.2\Source\FemBuilder**

File Edit View Go Favorites Tools Help

Name	Size	Type	Modified
SelectMaterialDlg.cpp	8KB	CPP File	9/17/01 11:32 AM
SelectMaterialDlg.h	3KB	H File	9/17/01 11:32 AM
SelectMaterialDlg.cpp	3KB	CPP File	9/17/01 11:32 AM
SelectMaterialDlg.h	2KB	H File	9/17/01 11:32 AM
SelectModelDlg.cpp	3KB	CPP File	9/17/01 11:32 AM
SelectModelDlg.h	2KB	H File	9/17/01 11:32 AM
SelectNodeDlg.cpp	13KB	CPP File	9/17/01 11:32 AM
SelectNodeDlg.h	3KB	H File	9/17/01 11:32 AM
SelectPointDlg.cpp	9KB	CPP File	9/17/01 11:32 AM
SelectPointDlg.h	3KB	H File	9/17/01 11:32 AM
SelectReactionsDlg.cpp	4KB	CPP File	9/17/01 11:32 AM
SelectReactionsDlg.h	2KB	H File	9/17/01 11:32 AM
SelectResultDlg.cpp	16KB	CPP File	9/17/01 11:32 AM
SelectResultDlg.h	4KB	H File	9/17/01 11:32 AM
SelectSpeciesDlg.cpp	4KB	CPP File	9/17/01 11:32 AM
SelectSpeciesDlg.h	2KB	H File	9/17/01 11:32 AM
SelectSurfaceByTypeDlg.cpp	3KB	CPP File	9/17/01 11:32 AM
SelectSurfaceByTypeDlg.h	2KB	H File	9/17/01 11:32 AM
SelectSurfaceDlg.cpp	10KB	CPP File	9/17/01 11:32 AM
SelectSurfaceDlg.h	3KB	H File	9/17/01 11:32 AM
SelectSystemDlg.cpp	6KB	CPP File	9/17/01 11:32 AM
SelectSystemDlg.h	2KB	H File	9/17/01 11:32 AM
SelectVolumeDlg.cpp	9KB	CPP File	9/17/01 11:32 AM

[320 object(s)] [31MB (Disk free space 0 bytes)] [My Computer]

**FIG. 44**

**Exploring - D:\FEM Builder 1.2\Source\FemBuilder**

Name	Size	Type	Modified
SelectVolumeDlg.h	3KB	H File	9/17/01 11 32 AM
SmoothMeshDlg.cpp	7KB	CPP File	9/17/01 11 32 AM
SmoothMeshDlg.h	3KB	H File	9/17/01 11 32 AM
SplashWnd.cpp	4KB	CPP File	9/17/01 11 32 AM
SplashWnd.h	2KB	H File	9/17/01 11 32 AM
Splash16.bmp	81KB	Bitmap Image	9/17/01 11 32 AM
StdAfx.cpp	1KB	CPP File	9/17/01 11 32 AM
StdAfx.h	2KB	H File	9/17/01 11 32 AM
SubModelDlg.cpp	11KB	CPP File	9/17/01 11 32 AM
SubModelDlg.h	4KB	H File	9/17/01 11 32 AM
SwespDlg.cpp	8KB	CPP File	9/17/01 11 32 AM
SweepDlg.h	3KB	H File	9/17/01 11 32 AM
ThermalAblationDlg.cpp	12KB	CPP File	9/17/01 11 32 AM
ThermalAblationDlg.h	4KB	H File	9/17/01 11 32 AM
TranslateDlg.cpp	2KB	CPP File	9/17/01 11 32 AM
TranslateDlg.h	2KB	H File	9/17/01 11 32 AM
UnitSystemPP.cpp	8KB	CPP File	9/17/01 11 32 AM
UnitSystemPP.h	2KB	H File	9/17/01 11 32 AM
WriteAbaqusDlg.cpp	18KB	CPP File	9/17/01 11 32 AM
WriteAbaqusDlg.h	7KB	H File	9/17/01 11 32 AM
WriteAnsysDlg.cpp	2KB	CPP File	9/17/01 11 32 AM
WriteAnsysDlg.h	2KB	H File	9/17/01 11 32 AM
WriteCCMDlg.cpp	8KB	CPP File	9/17/01 3:00 PM

320 object(s)      3 31MB (Disk free space 0 bytes)      My Computer

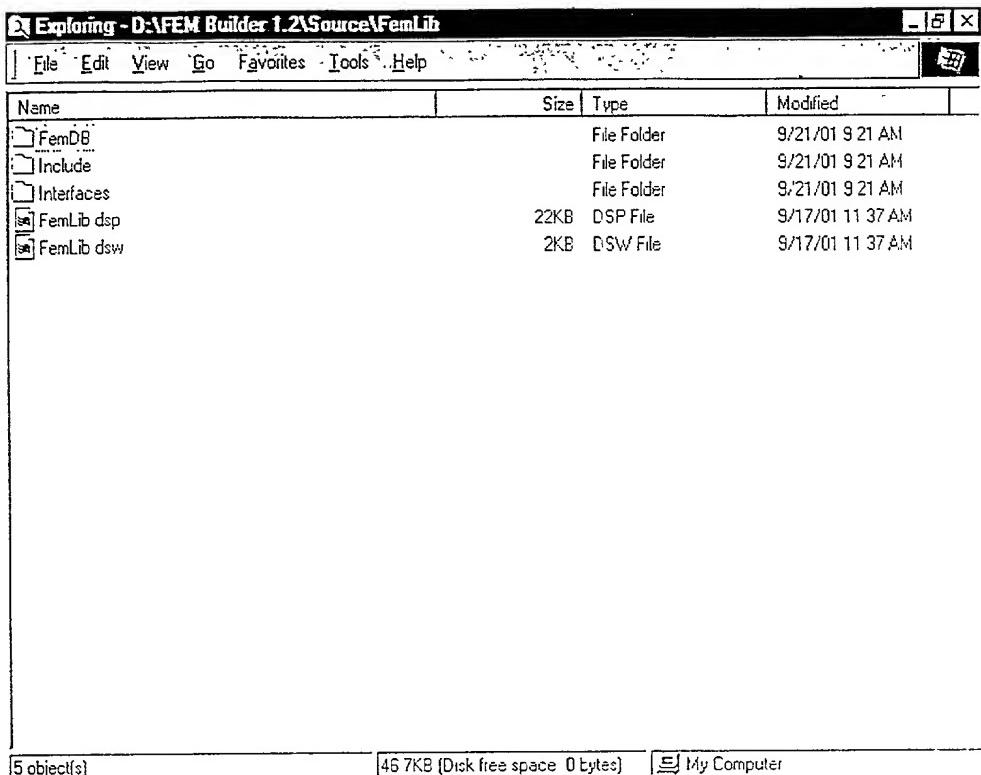
**FIG. 45**

**Exploring - D:\FEM Builder 1.2\Source\FemBuilder**

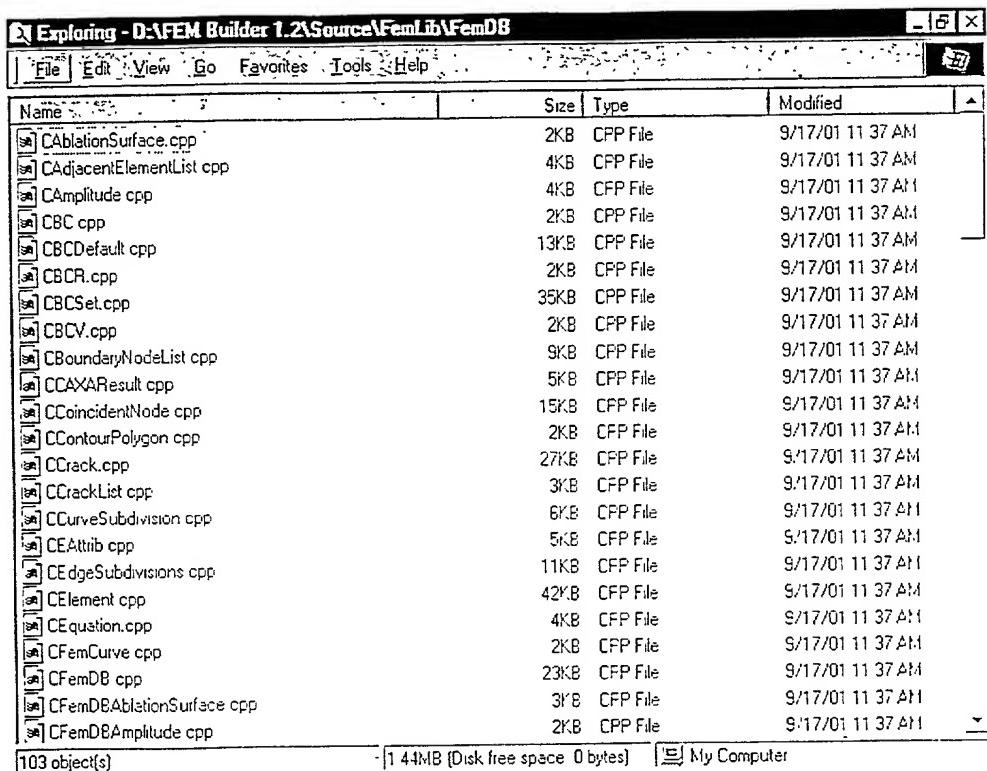
Name	Size	Type	Modified
WriteAnsysDlg.cpp	2KB	CPP File	9/17/01 11 32 AM
WriteAnsysDlg.h	2KB	H File	9/17/01 11 32 AM
WriteCCMDlg.cpp	8KB	CPP File	9/17/01 3:00 PM
WriteCCMDlg.h	3KB	H File	9/17/01 11 32 AM
WriteCDCADlg.cpp	8KB	CPP File	9/17/01 3:00 PM
WriteCDCADlg.h	3KB	H File	9/17/01 11 32 AM
WriteFluentDlg.cpp	22KB	CPP File	9/17/01 11 32 AM
WriteFluentDlg.h	9KB	H File	9/17/01 11 32 AM
WriteIdeasMSDlg.cpp	7KB	CPP File	9/17/01 11 32 AM
WriteIdeasMSDlg.h	3KB	H File	9/17/01 11 32 AM
WritePatranDlg.cpp	6KB	CPP File	9/17/01 11 32 AM
WritePatranDlg.h	3KB	H File	9/17/01 11 32 AM
WriteRecessDlg.cpp	26KB	CPP File	9/17/01 11 32 AM
WriteRecessDlg.h	7KB	H File	9/17/01 11 32 AM
WriteSindaDlg.cpp	14KB	CPP File	9/17/01 11 32 AM
WriteSindaDlg.h	6KB	H File	9/17/01 11 32 AM
WriteTexChem.cpp	7KB	CPP File	9/17/01 11 32 AM
WriteTexChem.h	4KB	H File	9/17/01 11 32 AM
XYPlotParmDlg.cpp	40KB	CPP File	9/21/01 7:06 AM
XYPlotParmDlg.h	9KB	H File	9/17/01 11 32 AM
XYPlotView.cpp	48KB	CPP File	9/21/01 7:06 AM
XYPlotView.h	8KB	H File	9/17/01 11 32 AM

320 object(s)      3 31MB (Disk free space 0 bytes)      My Computer

**FIG. 46**



**FIG. 47**



**FIG. 48**

1. FEM LIBRARY  
2. SOURCE  
3. FEMDB

Name	Size	Type	Modified
CFemDBBC.cpp	28KB	CPP File	9/17/01 11 37 AM
CFemDBBCDefaults.cpp	3KB	CPP File	9/17/01 11 37 AM
CFemDBConventions.cpp	8KB	CPP File	9/17/01 11 37 AM
CFemDBCResult.cpp	3KB	CPP File	9/17/01 11 37 AM
CFemDBCurve.cpp	21KB	CPP File	9/17/01 11 37 AM
CFemDBElement.cpp	17KB	CPP File	9/17/01 11 37 AM
CFemDBElementOrient.cpp	5KB	CPP File	9/17/01 11 37 AM
CFemDBEquation.cpp	17KB	CPP File	9/17/01 11 37 AM
CFemDBEResult.cpp	3KB	CPP File	9/17/01 11 37 AM
CFemDBGroup.cpp	9KB	CPP File	9/17/01 11 37 AM
CFemDBInitialConditions.cpp	4KB	CPP File	9/17/01 11 37 AM
CFemDBMaterial.cpp	7KB	CPP File	9/17/01 11 37 AM
CFemDBMatID.cpp	11KB	CPP File	9/17/01 11 37 AM
CFemDBMesh.cpp	10KB	CPP File	9/17/01 11 37 AM
CFemDBNode.cpp	6KB	CPP File	9/17/01 11 37 AM
CFemDBNResult.cpp	3KB	CPP File	9/17/01 11 37 AM
CFemDBPip.cpp	6KB	CPP File	9/17/01 11 37 AM
CFemDBPt.cpp	4KB	CPP File	9/17/01 11 37 AM
CFemDBResult.cpp	41KB	CPP File	9/17/01 11 37 AM
CFemDBSelect.cpp	62KB	CPP File	9/17/01 11 37 AM
CFemDBSet.cpp	9KB	CPP File	9/17/01 11 37 AM
CFemDBSubset.cpp	2KB	CPP File	9/17/01 11 37 AM
CFemDBSurface.cpp	26KB	CPP File	9/17/01 11 37 AM

103 object(s) | 1.44MB (Disk free space 0 bytes) | My Computer

FIG. 49

Name	Size	Type	Modified
CFemDBSystem.cpp	7KB	CPP File	9/17/01 11 37 AM
CFemDBVolume.cpp	14KB	CPP File	9/17/01 11 37 AM
CFemDO.cpp	6KB	CPP File	9/17/01 11 37 AM
CFemGeometry.cpp	2KB	CPP File	9/17/01 11 37 AM
CFemOptions.cpp	3KB	CPP File	9/17/01 11 37 AM
CFlowModel.cpp	9KB	CPP File	9/17/01 11 37 AM
CFractureCCI.cpp	6KB	CPP File	9/17/01 11 37 AM
CFractureCOD.cpp	7KB	CPP File	9/17/01 11 37 AM
CFractureJIntegral.cpp	21KB	CPP File	9/17/01 11 37 AM
CFractureJIntegralDPEnergyE.cpp	2KB	CPP File	9/17/01 11 37 AM
CFractureJIntegralDPEnergyI.cpp	4KB	CPP File	9/17/01 11 37 AM
CFractureMechanics.cpp	2KB	CPP File	9/17/01 11 37 AM
CGPDistortionCheck.cpp	2KB	CPP File	9/17/01 11 37 AM
CGroup.cpp	7KB	CPP File	9/17/01 11 37 AM
CInsert2DFlaw.cpp	41KB	CPP File	9/17/01 11 37 AM
ClentropicFlow.cpp	4KB	CPP File	9/17/01 11 37 AM
CMesh.cpp	2KB	CPP File	9/17/01 11 37 AM
CMesh2D.cpp	24KB	CPP File	9/17/01 11 37 AM
CMesh3D.cpp	34KB	CPP File	9/17/01 11 37 AM
CMeshAttribute.cpp	3KB	CPP File	9/17/01 11 37 AM
CMeshElement2D.cpp	13KB	CPP File	9/17/01 11 37 AM
CMeshMapped2D.cpp	57KB	CPP File	9/17/01 11 37 AM
CMeshMapped3D.cpp	17KB	CPP File	9/17/01 11 37 AM

103 object(s) | 1.44MB (Disk free space 0 bytes) | My Computer

FIG. 50

**Exploring - D:\FEM Builder 1.2\Source\FemLib\FemDB**

Name	Size	Type	Modified
CMeshSmooth.cpp	8KB	CPP File	9/17/01 11:37 AM
CMeshTrans3D.cpp	17KB	CPP File	9/17/01 11:37 AM
CMoveCopy.cpp	55KB	CPP File	9/17/01 11:37 AM
CNode.cpp	4KB	CPP File	9/17/01 11:37 AM
COrient.cpp	2KB	CPP File	9/17/01 11:37 AM
CPt.cpp	2KB	CPP File	9/17/01 11:37 AM
CQuadrant.cpp	19KB	CPP File	9/17/01 11:37 AM
CRefineMesh.cpp	87KB	CPP File	9/17/01 11:37 AM
CREsult.cpp	43KB	CPP File	9/17/01 11:37 AM
CSindsAttrib.cpp	8KB	CPP File	9/17/01 11:37 AM
CSindaNetwork.cpp	37KB	CPP File	9/17/01 11:37 AM
CSubModel.cpp	15KB	CPP File	9/17/01 11:37 AM
CSweepModel.cpp	27KB	CPP File	9/17/01 11:37 AM
CThermalAblation.cpp	32KB	CPP File	9/17/01 11:37 AM
DrawFem.cpp	25KB	CPP File	9/17/01 11:37 AM
FemEntityType.cpp	5KB	CPP File	9/17/01 11:37 AM
GElementContour.cpp	29KB	CPP File	9/17/01 11:37 AM
GElementDistortion.cpp	5KB	CPP File	9/17/01 11:37 AM
GElementFun.cpp	18KB	CPP File	9/17/01 11:37 AM
GElementGInt.cpp	17KB	CPP File	9/17/01 11:37 AM
GElementInfo.cpp	42KB	CPP File	9/17/01 11:37 AM
GElementNCIP.cpp	27KB	CPP File	9/17/01 11:37 AM
GElementNCP.cpp	10KB	CPP File	9/17/01 11:37 AM

103 object(s) | 144MB (Disk free space 0 bytes) | My Computer

**FIG. 51**

**Exploring - D:\FEM Builder 1.2\Source\FemLib\FemDB**

Name	Size	Type	Modified
CSweepModel.cpp	27KB	CPP File	9/17/01 11:37 AM
CThermalAblation.cpp	32KB	CPP File	9/17/01 11:37 AM
DrawFem.cpp	25KB	CPP File	9/17/01 11:37 AM
FemEntityType.cpp	9KB	CPP File	9/17/01 11:37 AM
GElementContour.cpp	29KB	CPP File	9/17/01 11:37 AM
GElementDistortion.cpp	9KB	CPP File	9/17/01 11:37 AM
GElementFun.cpp	16KB	CPP File	9/17/01 11:37 AM
GElementGInt.cpp	17KB	CPP File	9/17/01 11:37 AM
GElementInfo.cpp	42KB	CPP File	9/17/01 11:37 AM
GElementNCIP.cpp	27KB	CPP File	9/17/01 11:37 AM
GElementNCP.cpp	10KB	CPP File	9/17/01 11:37 AM
GElementNCVI.cpp	13KB	CPP File	9/17/01 11:37 AM
GElementOrient.cpp	3KB	CPP File	9/17/01 11:37 AM
GElementSF.cpp	17KB	CPP File	9/17/01 11:37 AM
GElementSFD.cpp	33KB	CPP File	9/17/01 11:37 AM
GElementSFDD.cpp	51KB	CPP File	9/17/01 11:37 AM
GMeshFun.cpp	8KB	CPP File	9/17/01 11:37 AM
GPointFun.cpp	2KB	CPP File	9/17/01 11:37 AM
GRdAnsysRes.cpp	13KB	CPP File	9/17/01 11:37 AM
GSindaFun.cpp	2KB	CPP File	9/17/01 11:37 AM
ResultInterpolation.cpp	23KB	CPP File	9/17/01 11:37 AM
ResultSuperposition.cpp	10KB	CPP File	9/17/01 11:37 AM

103 object(s) | 144MB (Disk free space 0 bytes) | My Computer

**FIG. 52**

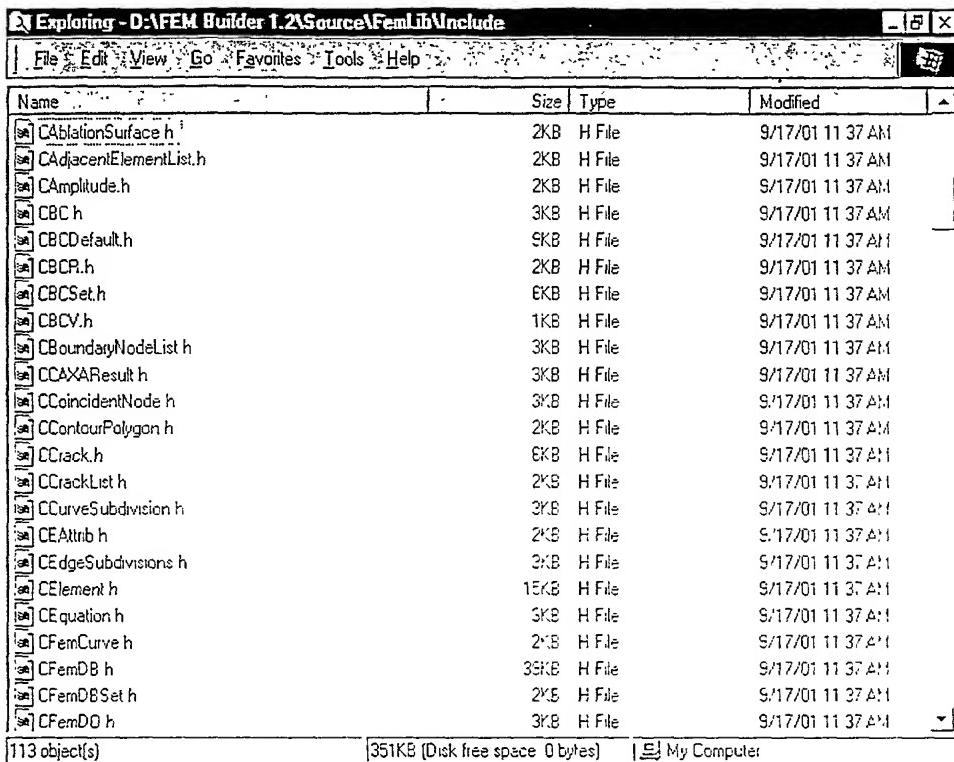


FIG. 53

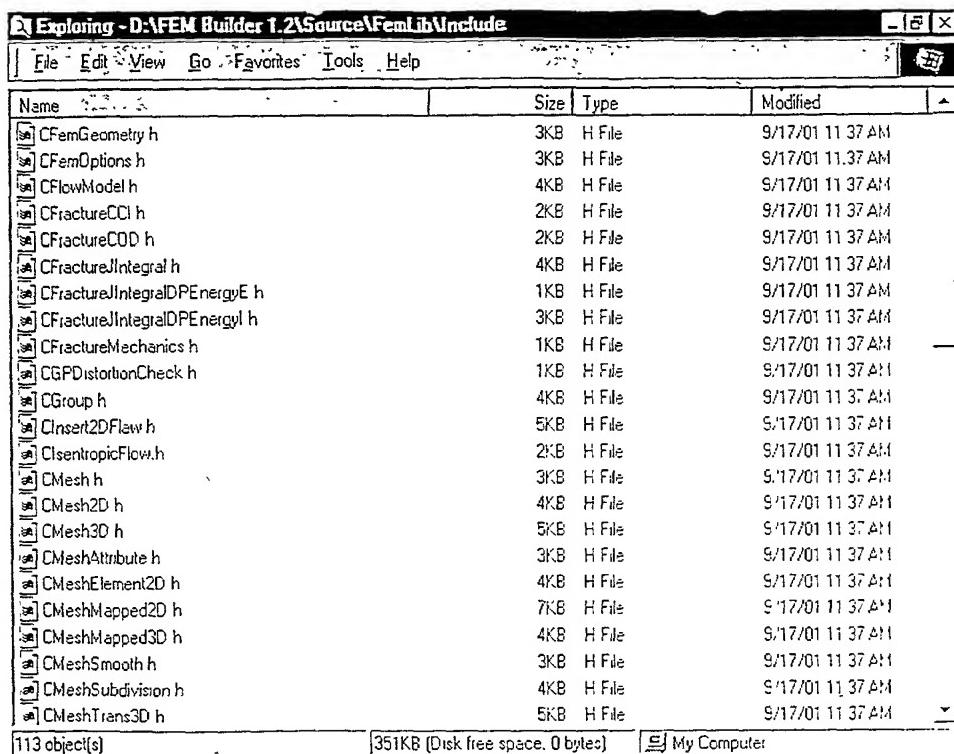


FIG. 54

**Exploring - D:\FEM Builder 1.2\Source\FemLib\Include**

Name	Size	Type	Modified
CMovingCopy.h	5KB	H File	9/17/01 11:37 AM
CNode.h	2KB	H File	9/17/01 11:37 AM
COrient.h	2KB	H File	9/17/01 11:37 AM
CQuadrant.h	5KB	H File	9/17/01 11:37 AM
CRdCrackCombustionData.h	2KB	H File	9/17/01 11:37 AM
CRRefineMesh.h	7KB	H File	9/17/01 11:37 AM
CRResult.h	11KB	H File	9/17/01 11:37 AM
CSindaAttrib.h	2KB	H File	9/17/01 11:37 AM
CSindaNetwork.h	7KB	H File	9/17/01 11:37 AM
CSubModel.h	2KB	H File	9/17/01 11:37 AM
CSweepModel.h	3KB	H File	9/17/01 11:37 AM
CThermalAblation.h	3KB	H File	9/17/01 11:37 AM
CWrCrackCombustionData.h	2KB	H File	9/17/01 11:37 AM
CV/SindaData.h	3KB	H File	9/17/01 11:37 AM
FemEntityType.h	8KB	H File	9/17/01 11:37 AM
FemStdIn.h	2KB	H File	9/17/01 11:37 AM
GElementContour.h	3KB	H File	9/17/01 11:37 AM
GElementDistortion.h	2KB	H File	9/17/01 11:37 AM
GElementFun.h	3KB	H File	9/17/01 11:37 AM
GElementGInt.h	4KB	H File	9/17/01 11:37 AM
GElementInfo.h	3KB	H File	9/17/01 11:37 AM
GElementNCIP.h	3KB	H File	9/17/01 11:37 AM
GElementNCP.h	2KB	H File	9/17/01 11:38 AM

113 object(s)      [351KB (Disk free space 0 bytes)]      [My Computer]

**FIG. 55**

**Exploring - D:\FEM Builder 1.2\Source\FemLib\Include**

Name	Size	Type	Modified
GElementNCV1.h	2KB	H File	9/17/01 11:38 AM
GElementOrient.h	1KB	H File	9/17/01 11:38 AM
GElementSF.h	2KB	H File	9/17/01 11:38 AM
GElementSFD.h	3KB	H File	9/17/01 11:38 AM
GElementSFDD.h	4KB	H File	9/17/01 11:38 AM
GMeshFun.h	1KB	H File	9/17/01 11:38 AM
GPointFun.h	1KB	H File	9/17/01 11:38 AM
GRdAnsysRes.h	3KB	H File	9/17/01 11:38 AM
GSindaFun.h	1KB	H File	9/17/01 11:38 AM
RdAbaqus.h	6KB	H File	9/17/01 11:38 AM
RdAbaqusFIF.h	1KB	H File	9/17/01 11:38 AM
RdAbaqusFOF.h	2KB	H File	9/17/01 11:38 AM
RdAbaqusInput.h	3KB	H File	9/17/01 11:38 AM
RdAnsycDB.h	6KB	H File	9/17/01 11:38 AM
RdAnsres.h	4KB	H File	9/17/01 11:38 AM
RdAscher.h	5KB	H File	9/17/01 11:38 AM
RdCCM.h	2KB	H File	9/17/01 11:38 AM
RdCDCA.h	2KB	H File	9/17/01 11:38 AM
RdFemDB.h	2KB	H File	9/17/01 11:38 AM
RdFluent.h	5KB	H File	9/17/01 11:38 AM
RdFluentIO.h	3KB	H File	9/17/01 11:38 AM
RdGridGen.h	2KB	H File	9/17/01 11:38 AM

0 KB      0 KB      0/17/01 11:38 AM      1

[Start] [ ] [ ] [ ] Exploring - D:\FEM B... [untitled - Paint]      [ - 5:08 PM]

**FIG. 56**

MATERIALS

Name	Size	Type	Modified
RdideasMS.h	4KB	H File	9/17/01 11 38 AM
RdPatran.h	3KB	H File	9/17/01 11 38 AM
RdRecess.h	3KB	H File	9/17/01 11 38 AM
RdSharp.h	3KB	H File	9/17/01 11 38 AM
RdSinda.h	1KB	H File	9/17/01 11 38 AM
RdSinGen.h	1KB	H File	9/17/01 11 38 AM
RdTexChem.h	2KB	H File	9/17/01 11 38 AM
RWAbaqus.h	1KB	H File	9/17/01 11 38 AM
RWAnsys.h	2KB	H File	9/17/01 11 38 AM
RWIdideasMS.h	2KB	H File	9/17/01 11 38 AM
WrAbaqus.h	6KB	H File	9/17/01 11 38 AM
WrAnsysCDB.h	3KB	H File	9/17/01 11 38 AM
WrCCM.h	2KB	H File	9/17/01 11 38 AM
WrCDCA.h	3KB	H File	9/17/01 11 38 AM
WrFemDB.h	2KB	H File	9/17/01 11 38 AM
WrFluent.h	6KB	H File	9/17/01 11 38 AM
WrIdideasMS.h	4KB	H File	9/17/01 11 38 AM
WrPatran.h	3KB	H File	9/17/01 11 38 AM
WrPatranRes.h	2KB	H File	9/17/01 11 38 AM
WrRecess.h	5KB	H File	9/17/01 11 38 AM
WrSinda.h	2KB	H File	9/17/01 11 38 AM
WrTexChem.h	3KB	H File	9/17/01 11 38 AM

113 object(s)      351KB [Disk free space 0 bytes]      My Computer

FIG. 57

Name	Size	Type	Modified
CRdCrackCombustionData.cpp	4KB	CPP File	9/17/01 11 38 AM
CWrCrackCombustionData.cpp	2KB	CPP File	9/17/01 11 38 AM
RdAbaqus.cpp	38KB	CPP File	9/17/01 11 38 AM
RdAbaqusFIF.cpp	2KB	CPP File	9/17/01 11 38 AM
RdAbaqusFOF.cpp	6KB	CPP File	9/17/01 11 38 AM
RdAbaqusInput.cpp	45KB	CPP File	9/17/01 11 38 AM
RdAnsysCDB.cpp	64KB	CPP File	9/17/01 11 38 AM
RdAnsysRes.cpp	35KB	CPP File	9/17/01 11 38 AM
RdAschar.cpp	21KB	CPP File	9/17/01 11 38 AM
RdCCM.cpp	4KB	CPP File	9/17/01 11 38 AM
RdCDCA.cpp	4KB	CPP File	9/17/01 11 38 AM
RdFemDB.cpp	43KB	CPP File	9/17/01 11 38 AM
RdFluent.cpp	46KB	CPP File	9/17/01 11 38 AM
RdFluentI/O.cpp	23KB	CPP File	9/17/01 11 38 AM
RdGridGen.cpp	6KB	CPP File	9/17/01 11 38 AM
RdIdideasMS.cpp	45KB	CPP File	9/17/01 11 38 AM
RdIdideasMSMaterial.cpp	27KB	CPP File	9/17/01 11 38 AM
RdPatran.cpp	29KB	CPP File	9/17/01 11 38 AM
RdRecess.cpp	37KB	CPP File	9/17/01 11 38 AM
RdSharp.cpp	27KB	CPP File	9/17/01 11 38 AM
RdSinda.cpp	5KB	CPP File	9/17/01 11 38 AM
RdSinGen.cpp	4KB	CPP File	9/17/01 11 38 AM
RdTexChem.cpp	15KB	CPP File	9/17/01 11 38 AM

38 object(s)      936KB [Disk free space 0 bytes]      My Computer

FIG. 58

**Exploring - D:\FEM Builder 1.2\Source\FemLib\Interfaces**

Name	Size	Type	Modified
RdIdeasMSMaterial.cpp	27KB	CPP File	9/17/01 11:38 AM
RdPatran.cpp	29KB	CPP File	9/17/01 11:38 AM
RdRecess.cpp	37KB	CPP File	9/17/01 11:38 AM
RdSharp.cpp	27KB	CPP File	9/17/01 11:38 AM
RdSinda.cpp	5KB	CPP File	9/17/01 11:38 AM
RdSinGen.cpp	4KB	CPP File	9/17/01 11:38 AM
RdTexChem.cpp	15KB	CPP File	9/17/01 11:38 AM
RWAbaqus.cpp	10KB	CPP File	9/17/01 11:38 AM
RWAnsys.cpp	20KB	CPP File	9/17/01 11:38 AM
RWIdeasMS.cpp	19KB	CPP File	9/17/01 11:38 AM
WABAQUIS.cpp	36KB	CPP File	9/17/01 11:38 AM
WAnsycDB.cpp	34KB	CPP File	9/17/01 11:38 AM
WCMM.cpp	6KB	CPP File	9/17/01 11:38 AM
WCDCDA.cpp	12KB	CPP File	9/17/01 11:38 AM
WFemDB.cpp	37KB	CPP File	9/17/01 11:38 AM
WFluent.cpp	65KB	CPP File	9/17/01 11:38 AM
WildeasMS.cpp	44KB	CPP File	9/17/01 11:38 AM
WildeasMSMaterial.cpp	27KB	CPP File	9/17/01 11:38 AM
WiPatran.cpp	33KB	CPP File	9/17/01 11:38 AM
WiRecess.cpp	35KB	CPP File	9/17/01 11:38 AM
WiSinda.cpp	19KB	CPP File	9/17/01 11:38 AM
WiTexChem.cpp	22KB	CPP File	9/17/01 11:38 AM

38 object(s) 936KB (Disk free space 0 bytes) My Computer

**FIG. 59**

**Exploring - D:\FEM Builder 1.2\Source\FemPython**

Name	Size	Type	Modified
FEDoc.cpp	1KB	CPP File	9/17/01 11:38 AM
FEDoc.h	1KB	H File	9/17/01 11:38 AM
FEM.cpp	6KB	CPP File	9/17/01 10:44 AM
FEM_ExtractFileNames.hpp	4KB	HPP File	9/17/01 11:38 AM
FEM_FEDoc.hpp	6KB	HPP File	9/17/01 11:38 AM
FEM_FEModel.hpp	31KB	HPP File	9/17/01 11:38 AM
FEM_FEModelBC.hpp	32KB	HPP File	9/17/01 11:38 AM
FEM_FEModelColor.hpp	2KB	HPP File	9/17/01 11:38 AM
FEM_FEModelCurve.hpp	17KB	HPP File	9/17/01 11:38 AM
FEM_FEModelDelete.hpp	3KB	HPP File	9/17/01 11:38 AM
FEM_FEModelElement.hpp	13KB	HPP File	9/17/01 11:38 AM
FEM_FEModelEquation.hpp	6KB	HPP File	9/17/01 11:38 AM
FEM_FEModelGroup.hpp	3KB	HPP File	9/17/01 11:38 AM
FEM_FEModelInterface.hpp	32KB	HPP File	9/17/01 11:38 AM
FEM_FEModelList.hpp	5KB	HPP File	9/17/01 11:38 AM
FEM_FEModelMaterial.hpp	3KB	HPP File	9/17/01 11:38 AM
FEM_FEModelMesh.hpp	15KB	HPP File	9/17/01 11:38 AM
FEM_FEModelMoveCopy.hpp	11KB	HPP File	9/17/01 11:38 AM
FEM_FEModelNode.hpp	7KB	HPP File	9/17/01 11:38 AM
FEM_FEModelPoint.hpp	5KB	HPP File	9/17/01 11:38 AM
FEM_FEModelPostprocessing.hpp	15KB	HPP File	9/17/01 11:38 AM
FEM_FEModelRegion.hpp	2KB	HPP File	9/17/01 11:38 AM
FEM_FEModelResult.hpp	11KB	HPP File	9/17/01 11:38 AM

65 object(s) 556KB (Disk free space 0 bytes) My Computer

**FIG. 60**

Exploring - D:\FEM Builder 1.2\Source\FemPython

Name	Size	Type	Modified
FEM_FEMModelSubModel.hpp	3KB	HPP File	9/17/01 11:38 AM
FEM_FEMModelSurface.hpp	11KB	HPP File	9/17/01 11:38 AM
FEM_FEMModelSweep.hpp	2KB	HPP File	9/17/01 11:38 AM
FEM_FEMModelSystem.hpp	3KB	HPP File	9/17/01 11:38 AM
FEM_FEMModelTools.hpp	3KB	HPP File	9/17/01 11:38 AM
FEM_FEMModelVolume.hpp	9KB	HPP File	9/17/01 11:38 AM
FEM_FEProperty.hpp	9KB	HPP File	9/17/01 11:38 AM
FEM_FEPropertyGroup.hpp	7KB	HPP File	9/17/01 11:38 AM
FEM_FEResult.hpp	15KB	HPP File	9/17/01 11:38 AM
FEMModel.cpp	5KB	CPP File	9/17/01 11:38 AM
FEMModel.h	19KB	H File	9/17/01 11:38 AM
FEMModelBC.cpp	39KB	CPP File	9/17/01 11:38 AM
FEMModelColor.cpp	2KB	CPP File	9/17/01 11:38 AM
FEMModelCurve.cpp	14KB	CPP File	9/17/01 11:38 AM
FEMModelDelete.cpp	3KB	CPP File	9/17/01 11:38 AM
FEMModelElement.cpp	14KB	CPP File	9/17/01 11:38 AM
FEMModelEquation.cpp	3KB	CPP File	9/17/01 11:38 AM
FEMModelGroup.cpp	5KB	CPP File	9/17/01 11:38 AM
FEMModelInterface.cpp	45KB	CPP File	9/17/01 11:38 AM
FEMModelList.cpp	5KB	CPP File	9/17/01 11:38 AM
FEMModelMaterial.cpp	1KB	CPP File	9/17/01 11:38 AM
FEMModelMesh.cpp	22KB	CPP File	9/17/01 11:38 AM
FEMModelMoveCopy.cpp	13KB	CPP File	9/17/01 11:38 AM
65 object(s) 556KB (Disk free space 0 bytes) My Computer			

FIG. 61

Exploring - D:\FEM Builder 1.2\Source\FemPython

Name	Size	Type	Modified
FEMModelMaterial.cpp	1KB	CPP File	9/17/01 11:38 AM
FEMModelMesh.cpp	22KB	CPP File	9/17/01 11:38 AM
FEMModelMoveCopy.cpp	13KB	CPP File	9/17/01 11:38 AM
FEMModelNode.cpp	7KB	CPP File	9/17/01 11:38 AM
FEMModelPoint.cpp	5KB	CPP File	9/17/01 11:38 AM
FEMModelPostprocessing.cpp	14KB	CPP File	9/17/01 11:38 AM
FEMModelRegion.cpp	2KB	CPP File	9/17/01 11:38 AM
FEMModelResult.cpp	9KB	CPP File	9/17/01 11:38 AM
FEMModelSubModel.cpp	3KB	CPP File	9/17/01 11:38 AM
FEMModelSurface.cpp	11KB	CPP File	9/17/01 11:38 AM
FEMModelSweep.cpp	2KB	CPP File	9/17/01 11:38 AM
FEMModelSystem.cpp	4KB	CPP File	9/17/01 11:38 AM
FEMModelVolume.cpp	8KB	CPP File	9/17/01 11:38 AM
FemPython.dcp	10KB	DSP File	9/17/01 11:38 AM
FemPython.dsW	3KB	DSV File	9/17/01 11:38 AM
FEPProperty.cpp	4KB	CPP File	9/17/01 11:38 AM
FEPProperty.h	2KB	H File	9/17/01 11:38 AM
FEPPropertyGroup.cpp	3KB	CPP File	9/17/01 11:38 AM
FEPPropertyGroup.h	1KB	H File	9/17/01 11:38 AM
FEResult.cpp	10KB	CPP File	9/17/01 11:38 AM
FEResult.h	2KB	H File	9/17/01 11:38 AM
FESddf.h	1KB	H File	9/17/01 11:38 AM
65 object(s) 556KB (Disk free space 0 bytes) My Computer			

FIG. 62

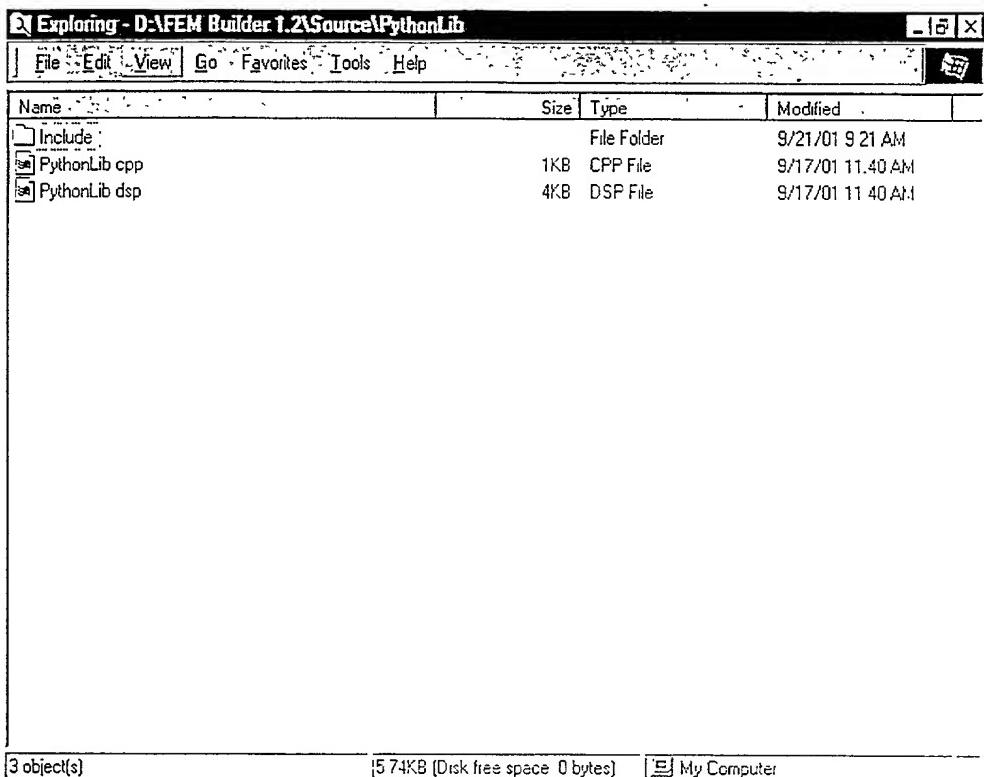


FIG. 63

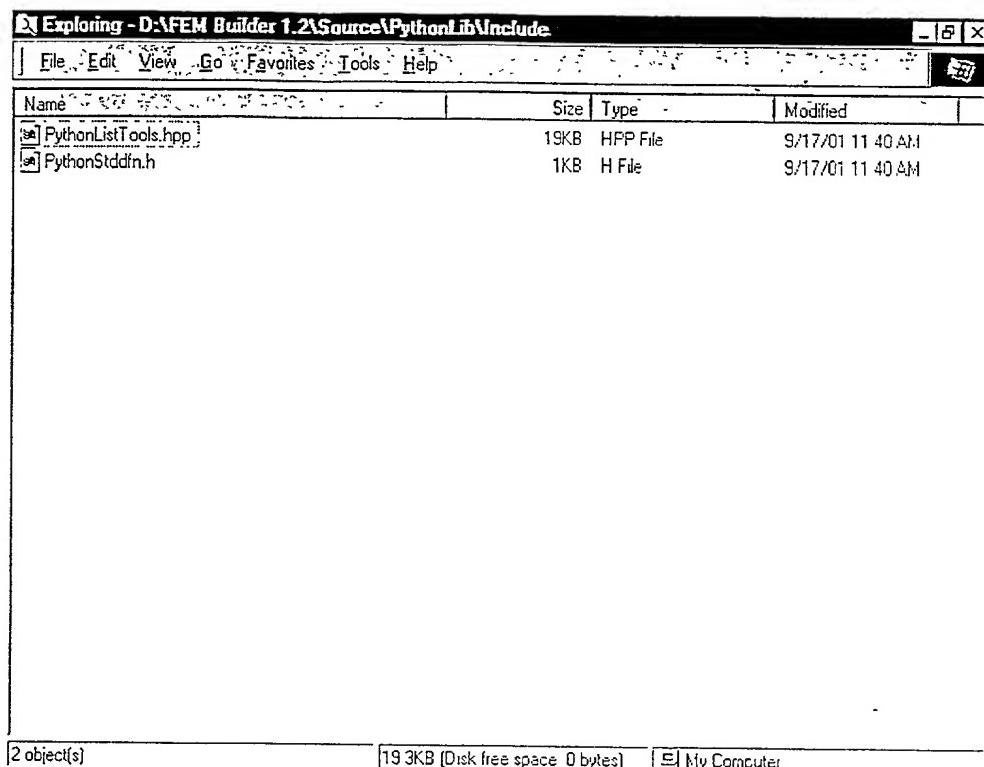


FIG. 64

MATERIALS

Name	Size	Type	Modified
Entity		File Folder	9/21/01 9 21 AM
Error		File Folder	9/21/01 9 21 AM
File		File Folder	9/21/01 9 21 AM
Graphics		File Folder	9/21/01 9 21 AM
Include		File Folder	9/21/01 9 21 AM
List		File Folder	9/21/01 9 21 AM
Material		File Folder	9/21/01 9 21 AM
Math		File Folder	9/21/01 9 21 AM
String		File Folder	9/21/01 9 21 AM
Time		File Folder	9/21/01 9 21 AM
Units		File Folder	9/21/01 9 21 AM
SciEngLib.dsp	18KB	DSP File	9/17/01 11 41 AM
SciEngLib.dsw	1KB	DSW File	9/17/01 11 41 AM

13 object(s) 48 4KB (Disk free space 0 bytes) My Computer

FIG. 65

Name	Size	Type	Modified
CCurve.cpp	2KB	CPP File	9/18/01 7 21 AM
CCurveSegment.cpp	14KB	CPP File	9/17/01 11 41 AM
CEdge.cpp	7KB	CPP File	9/17/01 11 41 AM
CEntity.cpp	3KB	CPP File	9/17/01 11 41 AM
CIntersectCurves.cpp	23KB	CPP File	9/17/01 11 41 AM
CNamed.cpp	2KB	CPP File	9/17/01 11 41 AM
CPt.cpp	3KB	CPP File	9/17/01 11 41 AM
CRelate.cpp	4KB	CPP File	9/17/01 11,41 AM
CSurface.cpp	34KB	CPP File	9/17/01 11 41 AM
CSurfaceAnalytic.cpp	8KB	CPP File	9/17/01 11 41 AM
CSurfaceBicubic.cpp	6KB	CPP File	9/17/01 11 41 AM
CSurfacePatch.cpp	7KB	CPP File	9/17/01 11 41 AM
CSurfaceRevolve.cpp	8KB	CPP File	9/17/01 11 41 AM
CSystem.cpp	10KB	CPP File	9/17/01 11 41 AM
CVolume.cpp	19KB	CPP File	9/17/01 11 41 AM
CWorkPlane.cpp	10KB	CPP File	9/17/01 11 41 AM

16 object(s) 176KB (Disk free space 0 bytes) My Computer

FIG. 66

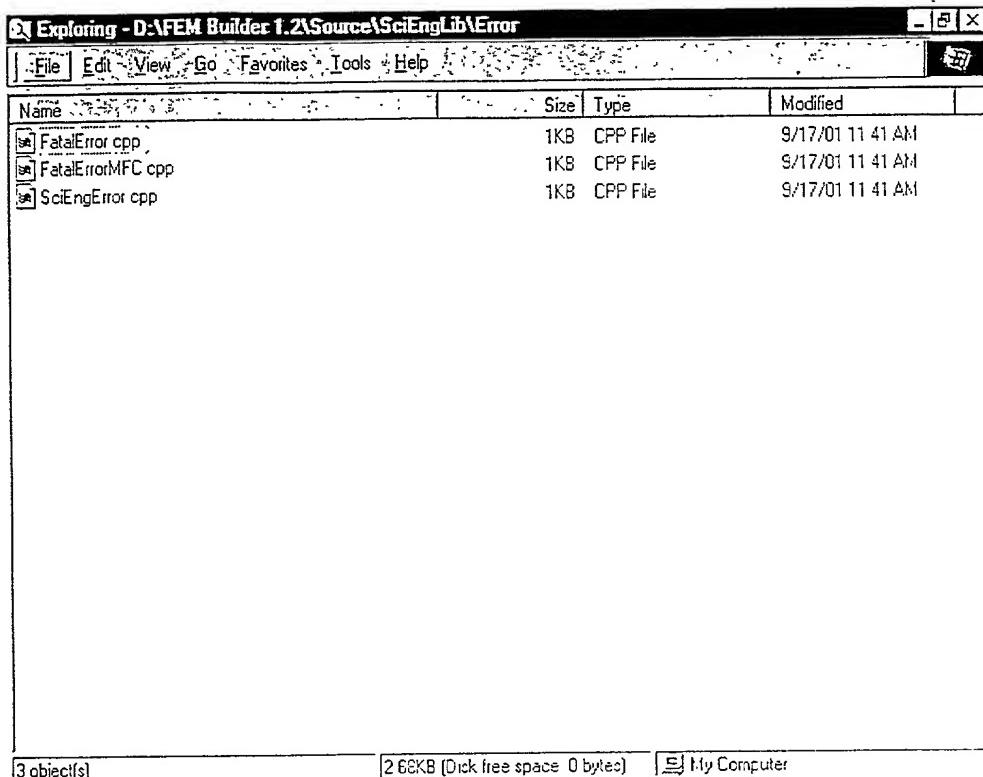


FIG. 67

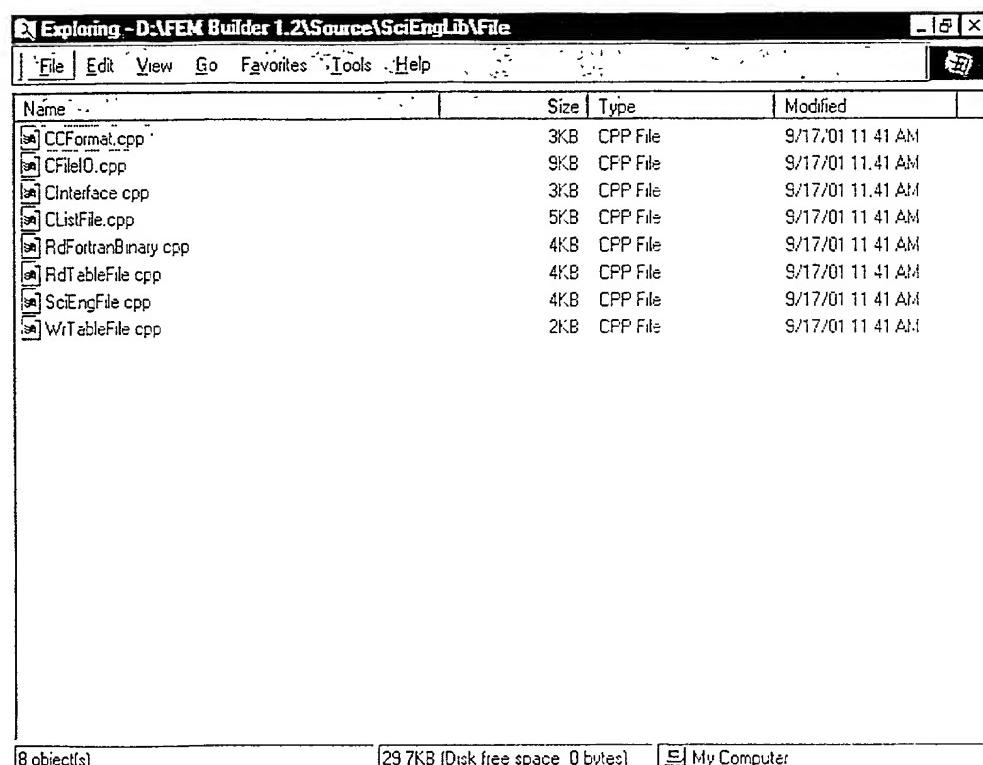


FIG. 68

**Exploring - D:\FEM Builder 1.2\Source\SciEngLib\Graphics**

File Edit View Go Favorites Tools Help

Name	Size	Type	Modified
CCColorButton.cpp	6KB	CPP File	9/17/01 11:41 AM
CDeviceDC.cpp	9KB	CPP File	9/17/01 11:41 AM
CDisplayList.cpp	20KB	CPP File	9/17/01 11:41 AM
CDisplayListHL.cpp	12KB	CPP File	9/17/01 11:41 AM
CMSWinDC.cpp	9KB	CPP File	9/17/01 11:41 AM
COpenGLDC.cpp	24KB	CPP File	9/21/01 7:04 AM
CRubberBand.cpp	6KB	CPP File	9/17/01 11:41 AM
CViewDC.cpp	45KB	CPP File	9/21/01 7:04 AM
CXYPlotAxis.cpp	8KB	CPP File	9/17/01 11:41 AM
CXYPlotCurve.cpp	19KB	CPP File	9/17/01 11:41 AM
CXYPlotData.cpp	10KB	CPP File	9/17/01 11:41 AM
DrawSymbol.cpp	12KB	CPP File	9/17/01 11:41 AM
SciEngColor.cpp	7KB	CPP File	9/17/01 11:41 AM
SciEngDraw.cpp	2KB	CPP File	9/17/01 11:41 AM

14 object(s) 181KB (Disk free space 0 bytes) My Computer

**FIG. 69**

**Exploring - D:\FEM Builder 1.2\Source\SciEngLib\Include**

File Edit View Go Favorites Tools Help

Name	Size	Type	Modified
CAArray.h	3KB	H File	9/17/01 11:41 AM
CAArray.hpp	4KB	HPP File	9/17/01 11:41 AM
CAList.h	2KB	H File	9/17/01 11:41 AM
CAList.hpp	4KB	HPP File	9/17/01 11:41 AM
CCFormat.h	2KB	H File	9/17/01 11:41 AM
CCChemicalReaction.h	3KB	H File	9/17/01 11:41 AM
CCChemicalSpecies.h	2KB	H File	9/17/01 11:41 AM
CCColorButton.h	3KB	H File	9/17/01 11:41 AM
CCCompositeProperty.h	3KB	H File	9/17/01 11:41 AM
CCurve.h	4KB	H File	9/17/01 11:41 AM
CCurveFit.h	2KB	H File	9/17/01 11:41 AM
CCurveSegment.h	3KB	H File	9/17/01 11:41 AM
CDated.h	2KB	H File	9/17/01 11:41 AM
CDeviceDC.h	5KB	H File	9/17/01 11:41 AM
CDisplayList.h	14KB	H File	9/17/01 11:41 AM
CDisplayListHL.h	3KB	H File	9/17/01 11:41 AM
CDoubleList.h	2KB	H File	9/17/01 11:41 AM
CEdge.h	2KB	H File	9/17/01 11:41 AM
CEList.h	3KB	H File	9/17/01 11:41 AM
CEList.hpp	8KB	HPP File	9/17/01 11:41 AM
CEllipticIntegral.h	2KB	H File	9/17/01 11:41 AM
CEntity.h	4KB	H File	9/17/01 11:41 AM
CFileIO.h	4KB	H File	9/17/01 11:41 AM

117 object(s) 288KB (Disk free space 0 bytes) My Computer

**FIG. 70**

**Exploring - D:\FEM Builder 1.2\Source\SciEngLib\Include**

Name	Size	Type	Modified
CFindRoot.h	2KB	H File	9/17/01 11:41 AM
CHash.h	3KB	H File	9/17/01 11:41 AM
CIntegrate.h	3KB	H File	9/17/01 11:41 AM
CImpegrateODE.h	5KB	H File	9/17/01 11:41 AM
CInterface.h	2KB	H File	9/17/01 11:41 AM
CIntersectCurves.h	2KB	H File	9/17/01 11:41 AM
CInList.h	2KB	H File	9/17/01 11:41 AM
CLeastSquareFit.h	1KB	H File	9/17/01 11:41 AM
CLEList.h	2KB	H File	9/17/01 11:41 AM
CLEList.hpp	6KB	HPP File	9/17/01 11:41 AM
CLinkedList.h	2KB	H File	9/17/01 11:41 AM
CLinkedList.hpp	6KB	HPP File	9/17/01 11:41 AM
CListFile.h	2KB	H File	9/17/01 11:41 AM
CMaterialDB.h	2KB	H File	9/17/01 11:41 AM
CMatID.h	3KB	H File	9/17/01 11:41 AM
CMSWinDC.h	3KB	H File	9/17/01 11:41 AM
CNamed.h	2KB	H File	9/17/01 11:41 AM
CNEList.h	2KB	H File	9/17/01 11:41 AM
CNEList.hpp	4KB	HPP File	9/17/01 11:41 AM
CNewtonRaphson.h	2KB	H File	9/17/01 11:41 AM
CNTable.h	3KB	H File	9/17/01 11:41 AM
COpenGLDC.h	5KB	H File	9/21/01 7:04 AM
COptimize1D.h	3KB	H File	9/17/01 11:41 AM

117 object(s) 288KB (Disk free space 0 bytes) My Computer

**FIG. 71**

**Exploring - D:\FEM Builder 1.2\Source\SciEngLib\Include**

Name	Size	Type	Modified
COptimizeND.h	3KB	H File	9/17/01 11:41 AM
CPipAnnotation.h	2KB	H File	9/17/01 11:41 AM
CPipAttr.h	2KB	H File	9/17/01 11:41 AM
CPipDB.h	3KB	H File	9/17/01 11:41 AM
CPipGroup.h	2KB	H File	9/17/01 11:41 AM
CPipNote.h	1KB	H File	9/17/01 11:41 AM
CPipTable.h	2KB	H File	9/17/01 11:41 AM
CPt.h	2KB	H File	9/17/01 11:41 AM
CRelate.h	2KB	H File	9/17/01 11:41 AM
CRelate.hpp	1KB	HPP File	9/17/01 11:41 AM
CRubberBand.h	2KB	H File	9/17/01 11:41 AM
CSet.h	2KB	H File	9/17/01 11:41 AM
CSet.hpp	6KB	HPP File	9/17/01 11:41 AM
CSetArray.h	6KB	H File	9/17/01 11:41 AM
CSpline.h	2KB	H File	9/17/01 11:41 AM
CSurface.h	11KB	H File	9/17/01 11:41 AM
CSurfaceEdge.h	2KB	H File	9/17/01 11:41 AM
CSurfaceFit.h	3KB	H File	9/17/01 11:41 AM
CSurfacePatch.h	3KB	H File	9/17/01 11:41 AM
CSystem.h	3KB	H File	9/17/01 11:41 AM
CTable.h	4KB	H File	9/17/01 11:41 AM
CTableCell.h	3KB	H File	9/17/01 11:41 AM
CText.h	3KB	H File	9/17/01 11:41 AM

117 object(s) 288KB (Disk free space 0 bytes) My Computer

**FIG. 72**

D:\FEM Builder 1.2\Source\SciEngLib\Include

Name	Size	Type	Modified
CTextFont.h	2KB	H File	9/17/01 11 41 AM
CTextFontDialog.h	1KB	H File	9/17/01 11 41 AM
CTimeDate.h	2KB	H File	9/17/01 11 41 AM
CTimeMS.h	2KB	H File	9/17/01 11 41 AM
CUnitSystem.h	4KB	H File	9/17/01 11 41 AM
CViewDC.h	10KB	H File	9/21/01 7 04 AM
CViewDCDef.h	2KB	H File	9/17/01 11 41 AM
CVolume.h	4KB	H File	9/17/01 11 41 AM
CWorkPlane.h	4KB	H File	9/17/01 11 41 AM
CXYPlotAxis.h	3KB	H File	9/17/01 11 41 AM
CXYPlotCurve.h	5KB	H File	9/17/01 11 41 AM
CXYPlotData.h	3KB	H File	9/21/01 7 04 AM
DrawSymbol.h	2KB	H File	9/17/01 11 41 AM
MalProperty.h	2KB	H File	9/17/01 11 41 AM
MalPropertyInfo.h	2KB	H File	9/17/01 11 41 AM
RdFortranBinary.h	3KB	H File	9/17/01 11 41 AM
RdMaterialDB.h	2KB	H File	9/17/01 11 41 AM
RdPipDB.h	2KB	H File	9/17/01 11 41 AM
RdTableFile.h	2KB	H File	9/17/01 11 41 AM
SciEngBit.h	1KB	H File	9/17/01 11 41 AM
SciEngBit.hpp	1KB	HPP File	9/17/01 11 41 AM
SciEngColor.h	3KB	H File	9/17/01 11 41 AM
SciEngCSystem.h	2KB	H File	9/17/01 11 41 AM

FIG. 73

D:\FEM Builder 1.2\Source\SciEngLib\Include

Name	Size	Type	Modified
SciEngCurve.h	3KB	H File	9/17/01 11 41 AM
SciEngCurveFit.h	7KB	H File	9/17/01 11 41 AM
SciEngDraw.h	1KB	H File	9/17/01 11 41 AM
SciEngError.h	1KB	H File	9/17/01 11 41 AM
SciEngFile.h	2KB	H File	9/17/01 11 41 AM
SciEngLib.h	3KB	H File	9/17/01 11 41 AM
SciEngMath.h	4KB	H File	9/17/01 11 41 AM
SciEngMath.hpp	4KB	HPP File	9/17/01 11 41 AM
SciEngMatrix.h	3KB	H File	9/17/01 11 41 AM
SciEngMove.h	1KB	H File	9/17/01 11 41 AM
SciEngMove.hpp	1KB	HPP File	9/17/01 11 41 AM
SciEngPoint.h	4KB	H File	9/17/01 11 41 AM
SciEngPolygon.h	1KB	H File	9/17/01 11 41 AM
SciEngResult.h	2KB	H File	9/17/01 11 41 AM
SciEngSort.h	1KB	H File	9/17/01 11 41 AM
SciEngSort.hpp	5KB	HPP File	9/17/01 11 41 AM
SciEngStdIn.h	3KB	H File	9/17/01 11 41 AM
SciEngStr.h	3KB	H File	9/17/01 11 41 AM
SciEngSurface.h	1KB	H File	9/17/01 11 41 AM
SciEngVector.h	2KB	H File	9/17/01 11 41 AM
SciEngVector.hpp	1KB	HPP File	9/17/01 11 41 AM
StdAfx.h	1KB	H File	9/17/01 11 41 AM
WtMaterialDB.h	1KB	H File	9/17/01 11 41 AM

FIG. 74

D:\FEM\Source\SciEngLib\Include

Name	Size	Type	Modified
SciEngError.h	1KB	H File	9/17/01 11:41 AM
SciEngFile.h	2KB	H File	9/17/01 11:41 AM
SciEngLib.h	3KB	H File	9/17/01 11:41 AM
SciEngMath.h	4KB	H File	9/17/01 11:41 AM
SciEngMath.hpp	4KB	HPP File	9/17/01 11:41 AM
SciEngMatrix.h	3KB	H File	9/17/01 11:41 AM
SciEngMove.h	1KB	H File	9/17/01 11:41 AM
SciEngMove.hpp	1KB	HPP File	9/17/01 11:41 AM
SciEngPoint.h	4KB	H File	9/17/01 11:41 AM
SciEngPolygon.h	1KB	H File	9/17/01 11:41 AM
SciEngResult.h	2KB	H File	9/17/01 11:41 AM
SciEngSort.h	1KB	H File	9/17/01 11:41 AM
SciEngSort.hpp	5KB	HPP File	9/17/01 11:41 AM
SciEngStdin.h	3KB	H File	9/17/01 11:41 AM
SciEngStr.h	3KB	H File	9/17/01 11:41 AM
SciEngSurface.h	1KB	H File	9/17/01 11:41 AM
SciEngVector.h	2KB	H File	9/17/01 11:41 AM
SciEngVector.hpp	1KB	HPP File	9/17/01 11:41 AM
StdAfx.h	1KB	H File	9/17/01 11:41 AM
WrMaterialDB.h	1KB	H File	9/17/01 11:41 AM
WrPropDB.h	2KB	H File	9/17/01 11:41 AM
WrTableFile.h	1KB	H File	9/17/01 11:41 AM

117 object(s) 286KB (Disk free space: 0 bytes) [My Computer]

FIG. 75

D:\FEM\Source\SciEngLib\List

Name	Size	Type	Modified
CDoubleList.cpp	3KB	CPP File	9/17/01 11:41 AM
CHash.cpp	17KB	CPP File	9/17/01 11:41 AM
CIntList.cpp	4KB	CPP File	9/17/01 11:41 AM

3 object(s) 21 4KB (Disk free space: 0 bytes) [My Computer]

FIG. 76

AFCBES P620 - 08/2002

Name	Size	Type	Modified
CChemicalReaction.cpp	5KB	CPP File	9/17/01 11:41 AM
CCompositeProperty.cpp	8KB	CPP File	9/17/01 11:41 AM
CMaterialDB.cpp	6KB	CPP File	9/17/01 11:41 AM
CMatD.cpp	5KB	CPP File	9/17/01 11:41 AM
CNTable.cpp	7KB	CPP File	9/17/01 11:41 AM
CPipAnnotation.cpp	3KB	CPP File	9/17/01 11:41 AM
CPipAttr.cpp	4KB	CPP File	9/17/01 11:41 AM
CPipDB.cpp	4KB	CPP File	9/17/01 11:41 AM
CPipGroup.cpp	5KB	CPP File	9/17/01 11:41 AM
CPipTable.cpp	2KB	CPP File	9/17/01 11:41 AM
CTable.cpp	12KB	CPP File	9/17/01 11:41 AM
CTableCell.cpp	4KB	CPP File	9/17/01 11:41 AM
MatPropertyInfo.cpp	23KB	CPP File	9/17/01 11:41 AM
RdMaterialDB.cpp	7KB	CPP File	9/17/01 11:41 AM
RdPipDB.cpp	7KB	CPP File	9/17/01 11:41 AM
WrMaterialDB.cpp	3KB	CPP File	9/17/01 11:41 AM
WrPipDB.cpp	8KB	CPP File	9/17/01 11:41 AM

17 object(s) | 103KB (Disk free space 0 bytes) | My Computer

FIG. 77

Name	Size	Type	Modified
CCurveFit.cpp	3KB	CPP File	9/17/01 11:41 AM
CEllipticIntegral.cpp	6KB	CPP File	9/17/01 11:41 AM
CFindRoot.cpp	8KB	CPP File	9/17/01 11:41 AM
CIntegrate.cpp	20KB	CPP File	9/17/01 11:41 AM
CIntegrateODE.cpp	11KB	CPP File	9/17/01 11:41 AM
CLeastSquareFit.cpp	3KB	CPP File	9/17/01 11:41 AM
CNewtonRaphson.cpp	7KB	CPP File	9/17/01 11:41 AM
COptimize1D.cpp	9KB	CPP File	9/17/01 11:41 AM
COptimizeND.cpp	8KB	CPP File	9/17/01 11:41 AM
CSpline.cpp	6KB	CPP File	9/17/01 11:41 AM
CSurfaceFit.cpp	10KB	CPP File	9/17/01 11:41 AM
SciEngCSystem.cpp	4KB	CPP File	9/17/01 11:41 AM
SciEngCurve.cpp	19KB	CPP File	9/17/01 11:41 AM
SciEngCurveFit.cpp	34KB	CPP File	9/17/01 11:41 AM
SciEngMath.cpp	15KB	CPP File	9/17/01 11:41 AM
SciEngMatrix.cpp	33KB	CPP File	9/17/01 11:41 AM
SciEngMove.cpp	1KB	CPP File	9/17/01 11:41 AM
SciEngPoint.cpp	30KB	CPP File	9/17/01 11:41 AM
SciEngPolygon.cpp	5KB	CPP File	9/17/01 11:41 AM
SciEngResult.cpp	18KB	CPP File	9/17/01 11:41 AM
SciEngSort.cpp	1KB	CPP File	9/17/01 11:41 AM
SciEngSurface.cpp	11KB	CPP File	9/17/01 11:41 AM
SciEngVector.cpp	6KB	CPP File	9/17/01 11:41 AM

23 object(s) | 258KB (Disk free space 0 bytes) | My Computer

FIG. 78

**Exploring - D:\FEM Builder 1.2\Source\SciEngLib\Math**

The screenshot shows a Windows Explorer window with the title bar "Exploring - D:\FEM Builder 1.2\Source\SciEngLib\Math". The menu bar includes File, Edit, View, Go, Favorites, Tools, and Help. The toolbar has icons for New, Open, Save, Cut, Copy, Paste, Find, and Delete. The status bar at the bottom shows "23 object(s)" and "258KB (Disk free space 0 bytes) My Computer".

Name	Size	Type	Modified
CEllipticIntegral.cpp	6KB	CPP File	9/17/01 11:41 AM
CFindRoot.cpp	8KB	CPP File	9/17/01 11:41 AM
CIntegrate.cpp	20KB	CPP File	9/17/01 11:41 AM
CImpIntegrateODE.cpp	11KB	CPP File	9/17/01 11:41 AM
CLeastSquareFit.cpp	3KB	CPP File	9/17/01 11:41 AM
CNewtonRaphson.cpp	7KB	CPP File	9/17/01 11:41 AM
COptimize1D.cpp	9KB	CPP File	9/17/01 11:41 AM
COptimizeND.cpp	8KB	CPP File	9/17/01 11:41 AM
CSpline.cpp	6KB	CPP File	9/17/01 11:41 AM
CSurfaceFit.cpp	10KB	CPP File	9/17/01 11:41 AM
SciEngCSystem.cpp	4KB	CPP File	9/17/01 11:41 AM
SciEngCurve.cpp	19KB	CPP File	9/17/01 11:41 AM
SciEngCurveFit.cpp	34KB	CPP File	9/17/01 11:41 AM
SciEngMath.cpp	16KB	CPP File	9/17/01 11:41 AM
SciEngMatrix.cpp	33KB	CPP File	9/17/01 11:41 AM
SciEngMove.cpp	1KB	CPP File	9/17/01 11:41 AM
SciEngPoint.cpp	30KB	CPP File	9/17/01 11:41 AM
SciEngPolygon.cpp	5KB	CPP File	9/17/01 11:41 AM
SciEngResult.cpp	18KB	CPP File	9/17/01 11:41 AM
SciEngSort.cpp	1KB	CPP File	9/17/01 11:41 AM
SciEngSurface.cpp	11KB	CPP File	9/17/01 11:41 AM
SciEngVector.cpp	8KB	CPP File	9/17/01 11:41 AM

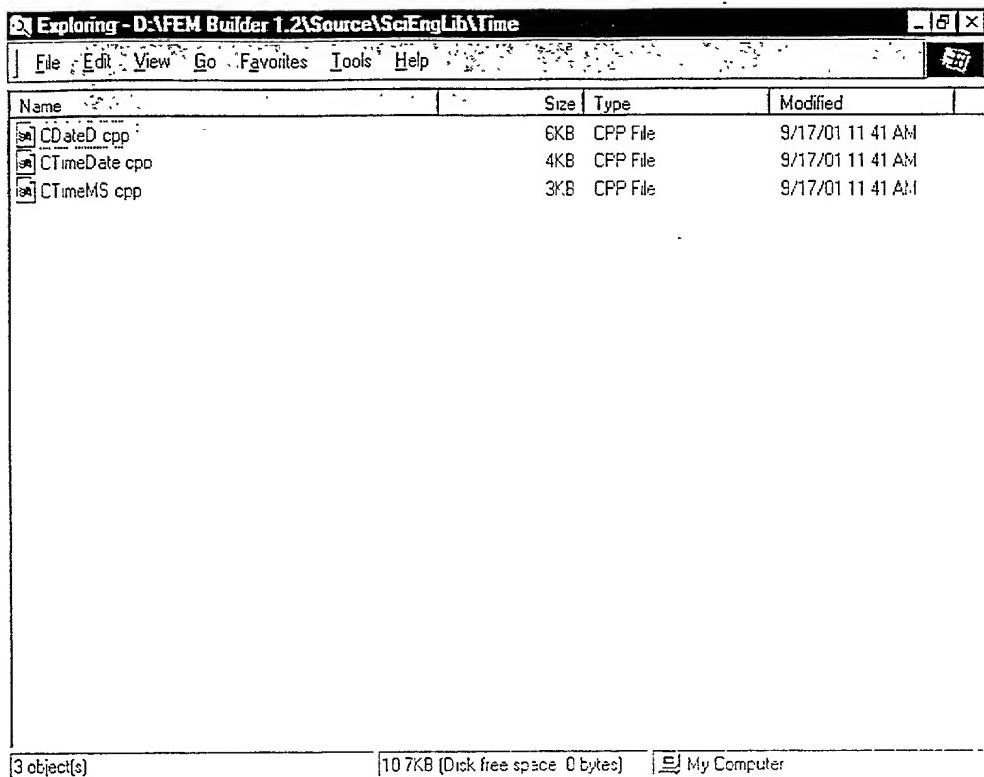
**FIG. 79**

**Exploring - D:\FEM Builder 1.2\Source\SciEngLib\String**

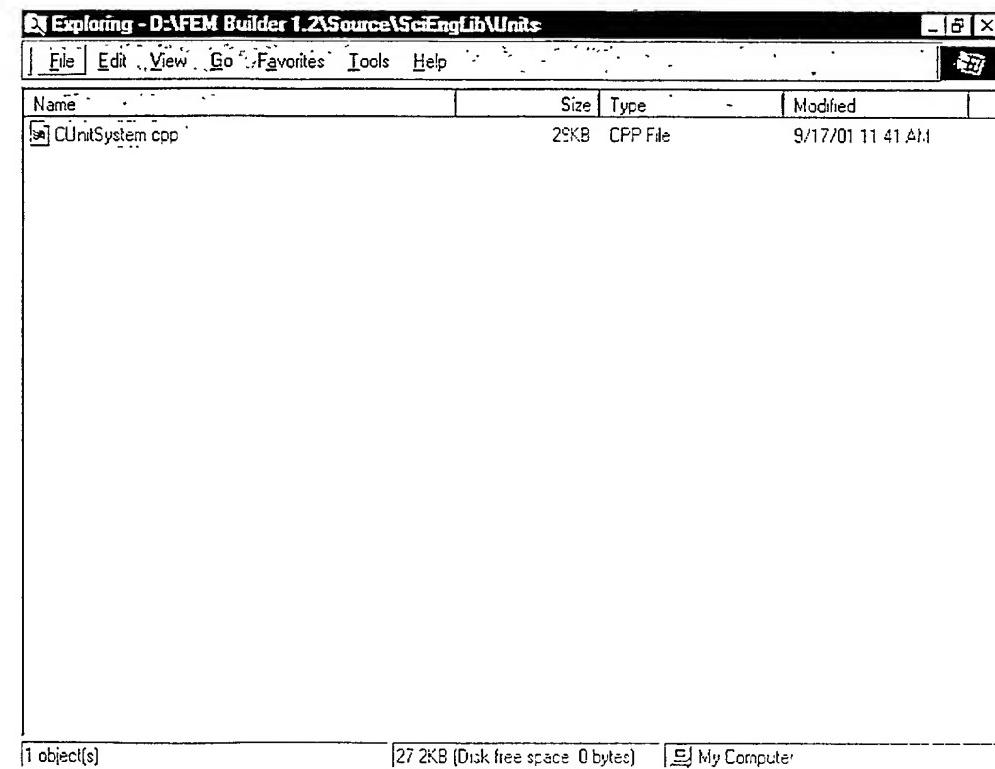
The screenshot shows a Windows Explorer window with the title bar "Exploring - D:\FEM Builder 1.2\Source\SciEngLib\String". The menu bar includes File, Edit, View, Go, Favorites, Tools, and Help. The toolbar has icons for New, Open, Save, Cut, Copy, Paste, Find, and Delete. The status bar at the bottom shows "4 object(s)" and "23 SKB (Disk free space 0 bytes) My Computer".

Name	Size	Type	Modified
CText.cpp	5KB	CPP File	9/17/01 11:41 AM
CTextFont.cpp	2KB	CPP File	9/17/01 11:41 AM
CTextFontDialog.cpp	2KB	CPP File	9/17/01 11:41 AM
SciEngStr.cpp	16KB	CPP File	9/17/01 11:41 AM

**FIG. 80**



**FIG. 81**



**FIG. 82**

**Exploring - D:\FEM Builder 1.2\Test**

File Edit View Go Favorites Tools Help

Name	Size	Type	Modified
Python		File Folder	9/21/01 9 21 AM
Results		File Folder	9/21/01 9 21 AM
Ablation-Structure.unv	1,858KB	UNV File	9/17/01 11 34 AM
Ablation-Thermal-Aft.plt	415KB	PLT File	9/17/01 11 34 AM
Ablation-Thermal-Fwd.plt	1,640KB	PLT File	9/17/01 11 34 AM
Axisym1.fdb	8KB	FDB File	9/17/01 11 34 AM
Axisym1.fil	40KB	FIL File	9/17/01 11 34 AM
Axisym1.resinp	4KB	RESINP File	9/17/01 11 34 AM
Axisym1.unv	11KB	UNV File	9/17/01 11 34 AM
Axisym1BC.fdb	7KB	FDB File	9/17/01 11 34 AM
Axisym1Caxa.fil	216KB	FIL File	9/17/01 11 34 AM
Axisym1Caxa.inp	4KB	INP File	9/17/01 11 34 AM
Axisym1CAXAResults.fdb	52KB	FDB File	9/17/01 11 34 AM
Axisym1CentResults.fdb	31KB	FDB File	9/17/01 11 34 AM
Axisym1Results.fdb	30KB	FDB File	9/17/01 11 34 AM
BoundaryListCheck1.fdb	4KB	FDB File	9/17/01 11 34 AM
CheckConnectivity.fdb	30KB	FDB File	9/17/01 11 34 AM
ChemicalReaction.fdb	1KB	FDB File	9/17/01 11 34 AM
ConcidentNodes.fdb	2KB	FDB File	9/17/01 11 34 AM
Constrain2d.fdb	13KB	FDB File	9/17/01 11 34 AM
Constrain3d.fdb	34KB	FDB File	9/17/01 11 34 AM
cp1d_bb.resinp	41KB	RESINP File	9/17/01 11 34 AM
cp1d_bb.resout	83KB	RESOUT File	9/17/01 11 34 AM

187 object(s) 49.2MB (Disk free space 0 bytes) My Computer

**FIG. 83**

**Exploring - D:\FEM Builder 1.2\Test**

File Edit View Go Favorites Tools Help

Name	Size	Type	Modified
cp1d_bls.resinp	7KB	RESINP File	9/17/01 11 34 AM
cp1d_bls.resout	245KB	RESOUT File	9/17/01 11 34 AM
cp1d_blt.resinp	8KB	RESINP File	9/17/01 11 34 AM
cp1d_blt.resout	246KB	RESOUT File	9/17/01 11 34 AM
cp1d_cbs.resinp	60KB	RESINP File	9/17/01 11 34 AM
cp1d_cbs.resout	98KB	RESOUT File	9/17/01 11 34 AM
cp1d_cbt.resinp	61KB	RESINP File	9/17/01 11 34 AM
cp1d_cbt.resout	96KB	RESOUT File	9/17/01 11 34 AM
Crack1FQ.fdb	38KB	FDB File	9/17/01 11 34 AM
Crack1FQ.fil	140KB	FIL File	9/17/01 11 34 AM
Crack1FQResults.fdb	175KB	FDB File	9/17/01 11 34 AM
Crack2DFFSL.fdb	16KB	FDB File	9/17/01 11 34 AM
Crack2DFFSL.fil	109KB	FIL File	9/17/01 11 34 AM
Crack2DFFSL.inp	8KB	INP File	9/17/01 11 34 AM
Crack2DFFSQ.fdb	32KB	FDB File	9/17/01 11 34 AM
Crack2DFFSQ.fil	195KB	FIL File	9/17/01 11 34 AM
Crack2DFFSQ.inp	13KB	INP File	9/17/01 11 34 AM
Crack2DFZL.fdb	113KB	FDB File	9/17/01 11 34 AM
Crack2DFZL.fil	1,707KB	FIL File	9/17/01 11 34 AM
Crack2DFZL.inp	44KB	INP File	9/17/01 11 34 AM
Crack2DFZQ.fdb	243KB	FDB File	9/17/01 11 34 AM
Crack2DFZQ.fil	3,487KB	FIL File	9/17/01 11 35 AM
Crack2DFZQ.inp	102KB	INP File	9/17/01 11 35 AM

187 object(s) 49.2MB (Disk free space 0 bytes) My Computer

**FIG. 84**

FEM BUILDER

Name	Size	Type	Modified
[x] Crack2DPS.fdb	32KB	FDB File	9/17/01 11 35 AM
[x] Crack2DSFML.fdb	18KB	FDB File	9/17/01 11 35 AM
[x] Crack2DSFML.fil	104KB	FIL File	9/17/01 11 35 AM
[x] Crack2DSFML.inp	7KB	INP File	9/17/01 11 35 AM
[x] Crack2DSFMQ.fdb	37KB	FDB File	9/17/01 11 35 AM
[x] Crack2DSFMQ.fil	213KB	FIL File	9/17/01 11 35 AM
[x] Crack2DSFMQ.inp	15KB	INP File	9/17/01 11 35 AM
[x] Crack2DSZL.fdb	75KB	FDB File	9/17/01 11 35 AM
[x] Crack2DSZL.fil	1,085KB	FIL File	9/17/01 11 35 AM
[x] Crack2DSZL.inp	29KB	INP File	9/17/01 11 35 AM
[x] Crack2DSZQ.fdb	153KB	FDB File	9/17/01 11 35 AM
[x] Crack2DSZQ.fil	2,175KB	FIL File	9/17/01 11 35 AM
[x] Crack2DSZQ.inp	63KB	INP File	9/17/01 11 35 AM
[x] Crack3DFFSL.fdb	47KB	FDB File	9/17/01 11 35 AM
[x] Crack3DFFSL.fil	445KB	FIL File	9/17/01 11 35 AM
[x] Crack3DFFSL.inp	20KB	INP File	9/17/01 11 35 AM
[x] Crack3DFFSQ.fdb	126KB	FDB File	9/17/01 11 35 AM
[x] Crack3DFFSQ.fil	1,154KB	FIL File	9/17/01 11 35 AM
[x] Crack3DFFSQ.inp	62KB	INP File	9/17/01 11 35 AM
[x] Crack3DPS.fdb	114KB	FDB File	9/17/01 11 35 AM
[x] Crack3DSFML.fdb	53KB	FDB File	9/17/01 11 35 AM
[x] Crack3DSFML.fil	519KB	FIL File	9/17/01 11 35 AM
[x] Crack3DSFML.inp	25KB	INP File	9/17/01 11 35 AM

FIG. 85

Name	Size	Type	Modified
[x] Crack3DSFMQ.fdb	157KB	FDB File	9/17/01 11 35 AM
[x] Crack3DSFMQ.fil	1,333KB	FIL File	9/17/01 11 35 AM
[x] Crack3DSFMQ.inp	77KB	INP File	9/17/01 11 35 AM
[x] CrackSBRAMSubScaleAxial.fdb	296KB	FDB File	9/17/01 11 35 AM
[x] CrackSBRAMSubscaleAxial.fil	2,097KB	FIL File	9/17/01 11 35 AM
[x] CrackSBRAMSubScaleAxial.inp	127KB	INP File	9/17/01 11 35 AM
[x] CrackSBRAMSubscaleRadial.fdb	320KB	FDB File	9/17/01 11 35 AM
[x] CrackSBRAMSubscaleRadial.fil	2,319KB	FIL File	9/17/01 11 35 AM
[x] CrackSBRAMSubScaleRadial.inp	130KB	INP File	9/17/01 11 35 AM
[x] CrackSBRAMSubscaleRadial3D.fdb	1,230KB	FDB File	9/17/01 11 35 AM
[x] CrackSBRAMSubscaleRadial3D.fil	13,507KB	FIL File	9/17/01 11 35 AM
[x] CrackSBRAMSubScaleRadial3D.inp	673KB	INP File	9/17/01 11 35 AM
[x] CurveFit1.dat	1KB	Movie Clip	9/17/01 11 35 AM
[x] CurveFit2.dat	1KB	Movie Clip	9/17/01 11 35 AM
[x] CurveFit3.dat	1KB	Movie Clip	9/17/01 11 35 AM
[x] CurveFit4.dat	1KB	Movie Clip	9/17/01 11 35 AM
[x] CurveFit5.dat	1KB	Movie Clip	9/17/01 11 35 AM
[x] EdgeNotched2D.fdb	275KB	FDB File	9/17/01 11 35 AM
[x] EdgeNotched3D.fdb	594KB	FDB File	9/17/01 11 35 AM
[x] EditColor.fdb	5KB	FDB File	9/17/01 11 35 AM
[x] ElementDistortion2D.fdb	3KB	FDB File	9/17/01 11 35 AM
[x] ElementDistortion3D.fdb	5KB	FDB File	9/17/01 11 35 AM
[x] Example4.fdb	47KB	FDB File	9/17/01 11 35 AM

FIG. 86

**Exploring - D:\FEM Builder 1.2\Test**

File Edit View Go Favorites Tools Help

Name	Size	Type	Modified
InterfaceFemDB_1.fdb	13KB	FDB File	9/17/01 11:35 AM
InterfaceFemDB_2.FDB	15KB	FDB File	9/17/01 11:35 AM
Interfaceideas_1.unv	31KB	UNV File	9/17/01 11:35 AM
LessFluid.fdb	1,507KB	FDB File	9/17/01 11:35 AM
LessFluid-CustomSolve.jou	1KB	JOU File	9/17/01 11:35 AM
LessSolid.fdb	620KB	FDB File	9/17/01 11:35 AM
LineElement.fdb	2KB	FDB File	9/17/01 11:35 AM
MatProp1.pdb	2KB	PDB File	9/17/01 11:35 AM
MatProp2.pdb	1KB	PDB File	9/17/01 11:35 AM
MeshSurface.fdb	20KB	FDB File	9/17/01 11:35 AM
MeshVolume.fdb	24KB	FDB File	9/17/01 11:35 AM
MixingElbow.cas	129KB	CAS File	9/17/01 11:35 AM
MixingElbow.dat	212KB	Movie Clip	9/17/01 11:35 AM
MixingElbow.fdb	657KB	FDB File	9/17/01 11:35 AM
Nozzle1.jou	1KB	JOU File	9/17/01 11:35 AM
Nozzle1_accur.cas	283KB	CAS File	9/17/01 11:35 AM
Nozzle1_accur.dat	980KB	Movie Clip	9/17/01 11:35 AM
NozzleModel.cas	172KB	CAS File	9/17/01 11:35 AM
NozzleModel.dat	365KB	Movie Clip	9/17/01 11:35 AM
P&NRegions.fdb	4KB	FDB File	9/17/01 11:35 AM
PipeFlow.cas	26KB	CAS File	9/17/01 11:35 AM
PipeFlow.dat	11KB	Movie Clip	9/17/01 11:35 AM
PipeFlow.fdb	7KB	FDB File	9/17/01 11:35 AM

187 object(s) 49.2MB (Disk free space 0 bytes) My Computer

**FIG. 87**

**Exploring - D:\FEM Builder 1.2\Test**

File Edit View Go Favorites Tools Help

Name	Size	Type	Modified
PlaneE1.fcb	8KB	FDB File	9/17/01 11:35 AM
PlaneE1.fil	30KB	FIL File	9/17/01 11:35 AM
PlaneE1.inp	3KB	INP File	9/17/01 11:35 AM
PlaneE1.unv	12KB	UNV File	9/17/01 11:35 AM
PlaneE1G.fdb	5KB	FDB File	9/17/01 11:35 AM
PlaneE2.fdb	43KB	FDB File	9/17/01 11:35 AM
PlaneE2.fil	223KB	FIL File	9/17/01 11:35 AM
PlaneE2.resinp	16KB	RESINP File	9/17/01 11:35 AM
PlaneE2F.fdb	152KB	FDB File	9/17/01 11:35 AM
PlaneE2F.unv	159KB	UNV File	9/17/01 11:35 AM
PlaneS1.fcb	10KB	FDB File	9/17/01 11:35 AM
PlaneS2.fcb	65KB	FDB File	9/17/01 11:35 AM
PlaneS2.fil	380KB	FIL File	9/17/01 11:35 AM
RdAschar.plt	79KB	FLT File	9/17/01 11:35 AM
RdCCM_1.ccmod	2KB	CCMODUT File	9/17/01 11:35 AM
RdCDCA_1.cdcout	67KB	CDCOUT File	9/17/01 11:35 AM
RWAnsys1.cdb	20KB	CDB File	9/17/01 11:35 AM
RWAnsys2.cdb	7KB	CDB File	9/17/01 11:35 AM
RWideas1.unv	185KB	UNV File	9/17/01 11:35 AM
SBRAMSubScsle.fdb	242KB	FDB File	9/17/01 11:35 AM
SelectByRegion.fdb	4KB	FDB File	9/17/01 11:35 AM
SelectCurve.fdb	14KB	FDB File	9/17/01 11:35 AM
SelectGroup.fdb	15KB	FDB File	9/17/01 11:35 AM

187 object(s) 49.2MB (Disk free space 0 bytes) My Computer

**FIG. 88**

FILE FINDER - D:\FEM

Name	Size	Type	Modified
Example4.fil	246KB	FIL File	9/17/01 11 35 AM
Example4.inp	16KB	INP File	9/17/01 11 35 AM
Example4.fdb	33KB	FDB File	9/17/01 11 35 AM
ExpCurve.dat	2KB	Movie Clip	9/17/01 11 35 AM
fdv.nam	1KB	NAM File	9/17/01 11 35 AM
fdv.xyz	5KB	XYZ File	9/17/01 11 35 AM
fdv0001.dat	14KB	Movie Clip	9/17/01 11 35 AM
fdv3d.nam	1KB	NAM File	9/17/01 11 35 AM
fdv3d.xyz	28KB	XYZ File	9/17/01 11 35 AM
fdv3d0001.dat	91KB	Movie Clip	9/17/01 11 35 AM
FluidCFD1.fdb	8KB	FDB File	9/17/01 11 35 AM
FluidCFD1.inp	3KB	INP File	9/17/01 11 35 AM
Geometry.fdb	22KB	FDB File	9/17/01 11 35 AM
GeometryEdit_1.fdb	3KB	FDB File	9/17/01 11 35 AM
GridGen.grd	6KB	GFD File	9/17/01 11 35 AM
GridGen.p3d	23KB	F3D File	9/17/01 11 35 AM
Heat0.fdb	6KB	FDB File	9/17/01 11 35 AM
Heat0.sot	11KB	SOT File	9/17/01 11 35 AM
Heat1.fdb	5KB	FDB File	9/17/01 11 35 AM
Heat1.sot	4KB	SOT File	9/17/01 11 35 AM
HTAAsym1.fdb	6KB	FDB File	9/17/01 11 35 AM
InsertFlawLinear.fdb	35KB	FDB File	9/17/01 11 35 AM
InsertFlawQuadratic.fdb	63KB	FDB File	9/17/01 11 35 AM

FIG. 89

Name	Size	Type	Modified
sharp.plt	6KB	PLT File	9/17/01 11 35 AM
SinGen.gin	27KB	GIN File	9/17/01 11 35 AM
SinGen.out	1,005KB	OUT File	9/17/01 11 35 AM
Smooth2d_1.fdb	17KB	FDB File	9/17/01 11 35 AM
Smooth2d_2.fdb	16KB	FDB File	9/17/01 11 35 AM
Smooth2d_3.fdb	54KB	FDB File	9/17/01 11 35 AM
Solid1L.fdb	5KB	FDB File	9/17/01 11 35 AM
Solid1L.fil	53KB	FIL File	9/17/01 11 35 AM
Solid1L.resinp	4KB	RESINP File	9/17/01 11 35 AM
Solid1L.unv	13KB	UNV File	9/17/01 11 35 AM
Solid1Q.fdb	20KB	FDB File	9/17/01 11 35 AM
Solid1Q.fil	133KB	FIL File	9/17/01 11 35 AM
Solid1Q.resinp	10KB	RESINP File	9/17/01 11 35 AM
Solid1Q.unv	1KB	UNV File	9/17/01 11 35 AM
SolidCFD1.fdb	9KB	FDB File	9/17/01 11 35 AM
SolidCFD1.inp	3KB	INP File	9/17/01 11 35 AM
StructuralGrid.fdb	35KB	FDB File	9/17/01 11 35 AM
TexChem_1.fdb	5KB	FDB File	9/17/01 11 35 AM
TexChem_1.spatial	10KB	SPATIAL File	9/17/01 11 35 AM
ThermalGrid.unv	6KB	UNV File	9/17/01 11 35 AM
UnitCube.fdb	7KB	FDB File	9/17/01 11 35 AM
UnitSquare.fdb	3KB	FDB File	9/17/01 11 35 AM

FIG. 90

**Exploring - D:\FEM Builder 1.2\Test**

Name	Size	Type	Modified
SelectN,E,F.fdb	8KB	FDB File	9/17/01 11:35 AM
SelectSurface.fdb	14KB	FDB File	9/17/01 11:35 AM
SelectSurface1.fdb	14KB	FDB File	9/17/01 11:35 AM
SelectVolume.fdb	14KB	FDB File	9/17/01 11:35 AM
sharp.plt	6KB	PLT File	9/17/01 11:35 AM
SinGen.gin	27KB	GIN File	9/17/01 11:35 AM
SinGen.out	1,009KB	OUT File	9/17/01 11:35 AM
Smooth2d_1.fdb	17KB	FDB File	9/17/01 11:35 AM
Smooth2d_2.fdb	16KB	FDB File	9/17/01 11:35 AM
Smooth2d_3.fdb	54KB	FDB File	9/17/01 11:35 AM
Solid1L.fdb	9KB	FDB File	9/17/01 11:35 AM
Solid1L.fil	53KB	FIL File	9/17/01 11:35 AM
Solid1L.resinp	4KB	RESINF File	9/17/01 11:35 AM
Solid1L.unv	13KB	UNV File	9/17/01 11:35 AM
Solid1Q.fdb	20KB	FDB File	9/17/01 11:35 AM
Solid1Q.fil	133KB	FIL File	9/17/01 11:35 AM
Solid1Q.resinp	10KB	RESINF File	9/17/01 11:35 AM
Solid1Q.unv	1KB	UNV File	9/17/01 11:35 AM
SolidCFD1.fdb	9KB	FDB File	9/17/01 11:35 AM
SolidCFD1.inp	3KB	INP File	9/17/01 11:35 AM
StructuralGrid.fdb	35KB	FDB File	9/17/01 11:35 AM
TexChem_1.fdb	9KB	FDB File	9/17/01 11:35 AM
TexChem_1<.ash1	13KB	SPATIAL File	9/17/01 11:35 AM

187 object(s) | 49.2MB (Disk free space 0 bytes) | My Computer

**FIG. 91**

**Exploring - D:\Recess**

Name	Size	Type	Modified
Recess bat	1KB	MS-DOS Batch File	9/19/01 2:57 PM
Recess.exe	5,089KB	Application	3/1/01 11:57 PM
RecessUser.doc	19KB	Microsoft Word Doc	9/19/01 9:35 AM
RecessW.exe	24KB	Application	9/19/01 3:18 PM

4 object(s) | 5.01MB (Disk free space 0 bytes) | My Computer

**FIG. 92**